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ABSTRACT

An evaluation of the Massachusetts Workplace Education Initiative brings together three phases: (1) a pilot outcome study conducted with a sample of six local workplace education programs and featuring the perspectives of workers, labor, and management; (2) program profiles for seven federally funded workplace education programs coordinated by the State of Massachusetts, Department of Education; and (3) an analysis of workplace education needs in the health care industry in Massachusetts. Perspectives of unions and management are reviewed in terms of demographics, areas of convergence, and specific interests. The discussion of the adult learner perspective takes into consideration ethnographic and gender differences. The program profiles include the following: Chinese American Civic Association/South Cove Manor Nursing Home; Mount Wachusett Community College/Digital Electric Corporation; Labor Education Center/Chamberlain Manufacturing Corporation; Employment Connections, Inc.,/Spir-it, Inc.; Quinsigamond Community College/Kennedy Die Castings Company; Lawrence Adult Learning Center/Friction Materials, Inc.; and the American Federation of State, County and Municipal Employees, Local 1776, and the University of Massachusetts. Recommendations are offered for program enhancement, program coordination, evaluation process, and marketing. Among them are the following: promote awareness of gender, age, and educational or skill level diversity; conduct cultural training workshops on-site; allocate more money on materials and resources such as dictionaries and texts; provide counseling services; include adult learners on program advisory boards; report pilot study results back to participants; and assess the magnitude of barriers to class attendance such as lack of child care, transportation, or scheduling flexibility. Items listed as appendices are available as separate documents. (LB) Adjunct ERIC Clearinghouse on Literacy Education.

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Massachusetts Workplace Education Initiative
Year 3 Evaluation
Final Report

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Preface

In the fall of 1988 the Steering Committee of the Massachusetts Workplace Education Initiative contracted with the Stone Center, Wellesley College, to conduct an evaluation of the Massachusetts Workplace Education Initiative. The evaluation had three parts:

1.) a pilot outcome study which was conducted with a sample of six local workplace education programs and which features the perspectives of workers, labor and management;
2.) program profiles for seven federally funded workplace education programs coordinated by the State of Massachusetts, Department of Education; and
3.) an analysis of workplace education needs in the health care industry in Massachusetts.

This final report joins together the reports written for these evaluation projects. Each section can be read independently of the others.

Please note that certain sections of the report, including the protocols developed for the evaluation, are available, by request, under separate cover.

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Finally, this evaluation grows out of evaluations of the Massachusetts Workplace Education Initiative conducted by Centre Research, Inc. in 1987 and 1988 and the Stone Center, Wellesley College, 1988.

Assessing Outcomes for Workplace Education Programs

Introduction

In the United States today, adult literacy and basic education are important priorities for our nation's economic and social health. For the Commonwealth of Massachusetts, adult education and literacy are essential to the creation of opportunities for all state residents, especially those currently most marginal to the economy. Moreover, the changing needs of post-industrial development require workers with a greater knowledge base to successfully meet high technology and service sector job requirements. The populace will need greater facility in reading, writing, computer skills and critical thinking.

As earlier evaluations have begun to demonstrate, workplace education programs are an essential component effort in Massachusetts to create a better informed and educated public. They bring adult education possibilities to many in our State who otherwise would not have the time or accessibility to attend other programs. Workplace education also has allowed the State to form a highly regarded partnership with cooperating businesses and labor unions in which all partners are winners.

Between January and June, 1989, the Stone Center, Wellesley College, conducted a pilot outcome evaluation of the Massachusetts Workplace Education Initiative (MWEI). The evaluation focused on outcome assessments by three groups who are closely involved with the provision, delivery, and consumption of educational program services: adult learners, union leaders and members, and company managers and supervisors. The evaluation, a combination of survey methods and personal interviews, was conducted at a total of seven program sites. These programs are representative of the sixteen programs which come under the authority of the MWEI. Selection criteria for the seven programs participating in the evaluation included geographic location, type of industry, presence of a union, age and gender of the adult learners, type of educational service provided, prior participation in the MWEI evaluation, and the interest of the local partnership.

The broad purpose of this stage of the Massachusetts Workplace Education Initiative evaluation was to begin a process of definition and refinement of appropriate outcome criteria for workplace education programs in general and for the three local program partners mentioned above: adult learners, leaders and members of participating unions, and representatives of upper and middle-level management. (Together with representatives from the educational service provider, which includes teachers and often the program coordinator, these groups constitute a workplace education program "partnership" at the local level.) The outcome evaluation is a pilot effort whose results can be applied to a broader data collection effort in years to come. The data collected in this pilot stage generates many questions which would inform future applications of the protocols and research methods.

This evaluation was broadly divided into two studies. One assesses the adult learners, the other assesses union leaders, members and representatives of upper and middle-level management. There is a set of outcome variables which are common to the two studies. These variables or "areas of convergence" are the common mirror in which we see reflected the different or, in some cases, similar perspectives of the local partners on what works in their programs. There are also variables which appear exclusively for the different respondent groups and which reflect their distinct interests and experiences.

The full results of the adult learner and union/management studies form the substance of this report. Research and evaluation materials were especially prepared for this study and mark an exciting, ground-breaking event for future Workplace Education Initiatives.

Those of us who have worked together on the development, distribution, analysis and reporting of the evaluation's findings at this point are agreed that the evidence is overwhelmingly positive-- we have a very worthwhile program in our hands. However, we realize that our findings are being presented during a period of serious funding crises which may ironically jeopardize a program which bolsters our State's economic future. The purpose of this evaluation continues to be to provide important information to state personnel directing workplace education programs, and to those "on site" personnel concerned about the future of their programs and to raise the awareness of the public at large of the benefits and challenges of establishing a literate citizen population.

Among the important findings of this pilot outcome study are the following:

- The majority of **adult learners entered classes to improve reading, writing, and speaking rather than math skills.**
- **More than 85% of the adult learners would recommend the class** to others.
- The **diversity of the adult learner population is significant in predicting outcomes.** In particular, factors of age, gender, and socioeconomic status deserve attention when designing workplace education programs. Similarly, **diversity of industry and program design are significant variables in predicting program outcomes.**
- **Four-fifths of the adult learners have lived in the United States for more than five years**, and one third have lived in the United States for over ten years.
- There is **substantial agreement among adult learners, union representatives and supervisors that reading, writing, and speaking skills have improved** due to participation in classes.
- **A substantial majority** of union representatives and supervisors **wanted workplace education to change working conditions at their companies.** Over half report that **conditions have changed** in positive ways.
- There is **overwhelming agreement among adult learners, union representatives and supervisors that participation in workplace education programs results in increased self confidence,** an outcome which is perceived to positively influence many areas of an adult learner's life, including relationships with co-workers and job performance.
- There is **no agreement among adult learners, union representatives, and supervisors that participation in a workplace education program uniformly impacts absenteeism, job mobility or retention of workers.** Variables like these must be assessed in the context of the individual worksite, its educational needs and program design.
- There is **general agreement among the respondents that workplace education is** more than the transmission of workplace-specific skills in a classroom located at the worksite. Workplace education is both the 1.) **provision of educational services which are work and life skills oriented within the work environment; and 2.) the total of the effects of those teachings on the adult learners and on the culture of the workplace.**

Evaluating Workplace Education Program Outcomes: The Perspectives of Unions and Management

History and Methods

Background

FY 89 marked the third year in which the Massachusetts Workplace Education Initiative funded, coordinated, and evaluated the delivery of educational services to selected industries and worksites across the state. The pilot outcome evaluation conducted this year with union members and representatives of company management is the culmination both of formative evaluation data collection in the first two years and of diligent monitoring and documentation by the State partners and by local program coordinators. This pilot outcome evaluation addresses the broad questions of how success in a workplace education program is defined and measured, which criteria are shared by the various partners, and which are specific to the needs and interests of a single partner. One could argue that this is a systems approach modified and applied to program evaluation.

The goals of the pilot outcome evaluation are:

1.) To broaden the base of understanding about what defines success in workplace education programs;
2.) To debunk or confirm the usefulness of certain traditional measures of success;
3.) To identify new variables which reflect an understanding of the dimensions of change brought about by workplace education programs; and
4.) To establish a research methodology that fosters ongoing exploration and refinement of outcome measures.

The MWEI was the first program of its kind in the Commonwealth to organize workplace education programs on a large scale. True to the demonstration nature of the program, the State Steering Committee members allowed the standards for measuring the success of the Program to evolve out of the experiences of the local programs. Rather than impose standard measures of success, defined, for example, as increase in student grade level or in simple management terms like employee retention, the outcome evaluation grew out of the observations, trials, successes and shortcomings of local program partnerships. Therefore, formative evaluations conducted in years one and two of the MWEI focused first on identifying the significant characteristics of each program and then on generalizing about issues and concerns common to all or most of the programs.

Identifying Outcome Variables

In the process of developing detailed profiles for each of the programs in years one and two, the following people were interviewed: adult learners, union members and leaders, teachers, coordinators, representatives of upper and middle-level management, and representatives from local SDA's and PIC's. All were engaged in the process of identifying those variables which seemed to make programs work. Sometimes the different groups identified the same variables; sometimes the groups differed significantly in their perceptions of what was critical, effective or even desirable.

In the extreme cases, the agenda of management, focusing on production quotas to the exclusion of all else, could not fully support the humanistic, educational goals of the learning provider to deliver services to the lowest skilled workers first. Or management, out of fear that the classroom might be used by workers to discuss their rights, forbade union materials to be incorporated into the curriculum. A program might be driven more forcibly by management concerns; or a program might be driven more by union efforts. As a rule, however, the large quantity of formative evaluation data spoke to the capacity of the local partners to collaborate on the definition of workplace education and in the provision of services, a capacity born out of the realization that their programs could not otherwise succeed.

In the third year an attempt was made to translate the anecdotal data on program process, development, and outcomes from the perspectives of all the partners into measurable outcome variables. Toward this end, the six program profiles from year one, the seventeen program profiles from year two and the accompanying overview reports were thoroughly reviewed. Lists of variables were then compiled according to the following sorting scheme:

1.) Gross measures of worksite-oriented behavior change (absenteeism, safety, etc.);
2.) Personal change in the adult learner him/herself (like self-confidence), in family life (like communication with family members and friends in English) or in community life (like the ability to negotiate institutions like hospitals);
3.) Change in educational skill level of the adult learner (reading, writing, speaking, and computation);
4.) Change in reasoning skills in the adult learner (like sequencing, cause and effect);
5.) Change for the adult learner in understanding the purpose and context of workplace education programs (like awareness of illiteracy and its costs at the worksite);
6.) Organizational change at the worksite (e.g., more cooperation among workers);
7.) Change for the adult learner in union-related awareness/behavior (like involvement in union meeting);
8.) Change in unions' awareness of purpose and context of workplace education;
9.) Change in management's awareness of the purpose and context of workplace education; and
10.) Change in supervisors' perceptions of the effects of workplace/education on their relationship with adult learners.

A complete list of these variables is included in Table A, page 18.

Developing the Protocols

In The Bottom Line: Basic Skills in the Workplace, David Harmon and Renee Lerche suggest a useful format for understanding the four areas which can be measured in an outcome study of workplace education programs. They are:
1.) student response, where adult learners comment on their learning and program experience;
2.) student performance, which can be observed and commented on by various representatives of unions, management and the workforce;
3.) organizational change, which can be observed and commented on by various representatives of unions, management and the workforce; and
4) student learning, which is the area of assessment left to the teachers and other learning providers, like Program Coordinators and tutors.

The Stone Center worker evaluation addresses student response to participation in a workplace education program. The union/management evaluation addresses perceptions of student performance and organizational change by union and company representatives. At the start of the union/management evaluation, we wanted to include observations of student performance and organizational change from the perspectives of unions, management, learning providers, and non student workers alike. Not only do the various perspectives on the workplace education program enhance the overall understanding of how programs can better meet the needs of the partners, but the process of being involved in the evaluation increases the sense of investment which the various groups have in the success of the program. However, given limited resources, it was not possible to survey learning providers or non-student workers. The union/management evaluation is therefore limited to the observations by union leaders and members and upper and middle-level managers of change in student performance and of organizational change.

A decision was made to design a questionnaire which would take approximately forty minutes to complete. The long list of variables gleaned from the program profiles was thus reduced to one "core" protocol which, we planned, all respondents would complete, with some extra questions designed separately for union members and upper and middle-level managers to address their specific concerns. The responses to this draft core protocol by teachers, union members and management representatives at a meeting held at Wellesley College in February 1989 indicated that the protocol needed to be shortened and amended to better represent the various interests of the partners. As a result, it was decided to call two additional meetings, one with managers and one with union representatives to clarify their interests in the outcome evaluation and to better adapt the protocol to those interests.

The meetings, held in March and April, provided valuable information on the content and process of an outcome evaluation. The meetings were small and discussion was lively. State partners were present at both meetings. Four upper-level managers attended the first meeting where the concerns of upper-level management and of supervisors, who were to play a major role in the evaluation, were discussed. It is only with hindsight that we realize three meetings should have been held– one for unions, one for supervisors, and one for managers– or that, at least, supervisors should have been invited to the managers' meeting. The absence of supervisors at the management meeting resulted in second guessing their level of interest in participating in an evaluation and in misjudging the length and level of detail they could tolerate in a protocol. Almost to a one, after they had completed their surveys, supervisors said their protocol was too general and too short. Union participation in the construction of the union protocol was strong. Three union leaders collaborated with the evaluator to identify those variables which were appropriate to a union protocol.

The result of this development work was three separate protocols:

1.) The Management Evaluation Fact Sheet is designed specifically for upper-level managers and focuses on gross "objective" measures of worksite-oriented change in adult learner behavior (like absenteeism, safety, etc.) and on methods for measuring the cost benefits of programs;

2.) The Survey for Managers and Supervisors is designed for middle-level managers, supervisors, training and education directors, etc. and focuses on observations of personal changes in adult learners, the application of educational skills to the worksite, and organizational change; and

3.) The Survey for Union Members is designed for union leaders and members and focuses on observations of personal changes in adult learners as a result of participation in a workplace education program and on the relationship between participation in a program and members' understanding and use of union resources.

In addition to the fact sheet and surveys, two interview protocols were also prepared, one for supervisors and one for union representatives. The interview protocols are virtually identical to the surveys except for:

a.) questions which ask the respondents to "please explain" their answers to all multiple choice questions; and

b.) a set of prompts to stimulate discussion on certain questions. The fact sheet, surveys and interviews were designed to assess perceptions of change over time. In general, respondents are asked to comment on whether a certain variable, for example, the self esteem of student workers, has decreased, increased, or stayed the same since the program began. (Copies of the protocols are in the Appendix)

Data Collection

The evaluator worked with representatives from upper-level management and with union leaders from the six programs participating in the pilot study to arrange a schedule for conducting the evaluation. The evaluation method was a combination of group survey and individual interviews. When it was possible to coordinate union and management representatives, the evaluation was conducted from roughly nine to five on a normal business day. It was not always possible to coordinate groups in this fashion, necessitating one or two return trips. The projected N's for each site were as follows:

1.) Interview at least l representative of upper-level management;
2.) Survey a group of not more than 6 supervisors, followed by interviews with not more than 2 of the supervisor survey respondents; and
3.) Survey a group of not more than 6 union representatives, followed by interviews with not more than 2 of the union survey respondents.

The supervisor and union protocols were designed to be completed in approximately forty minutes, leaving approximately twenty minutes of the allotted hour for an introduction to and discussion of the evaluation. Respondents often completed the questionnaires in fewer than forty minutes, allowing for greater discussion time which all respondents welcomed. In some cases more than one representative of upper-level management participated in the Management Interview, fostering a rich discussion of issues. Discussion with managers was sometimes continued informally at lunch or at the end of the day. We suspect supervisors and union representatives would have also happily continued discussion had the opportunity been given to them.

The basic schedule was as follows:

1.) 9-10:00 A.M. meet with upper-level management. Complete Fact Sheet with manager(s) or leave Fact Sheet to be completed by them at their own pace, with opportunity to think through some of the issues raised. Managers at two sites opted to complete the Fact Sheet on their own. In these cases, an interview based on the Fact Sheet was still conducted, giving additional data.
2.) 10-11:00 A.M. meet supervisors' group and conduct survey.
3.) 11 A.M.-1:00 P.M. conduct interviews with 2 supervisor survey respondents.
4.) 2-3:00 P.M. meet union group and conduct survey.
5.) 3-5:00 P.M. conduct interviews with 2 union survey respondents.

The programs, which are representative of the total of 16 programs in the MWEI, were selected on the basis of the following criteria: geographic location; type of industry; presence of a union; age and gender of the adult learners; type of educational services provided; prior participation in the MWEI; and the interest of the local partnership. The programs are described below:

1.) Friction Materials, Inc., is a Lawrence-based manufacturer of brake technologies, with a largely male Hispanic workforce. This company has recently instituted a company wide statistical process control (SPC) method for engaging workers in the identification of mistakes in production and product flaws before product completion. SPC is a company-wide cost containment effort involving all workers. Among other things, SPC results in less time spent on producing faulty products, and less scrap material wasted. The ESL program is seen as an integral part of the SPC training program. The ESL program has the full support of a chief supervisor who works with the teacher to develop curriculum which is work related. The ESL approach is grammar-based. Friction Materials is a union shop. The union is the Amalgamated Clothing and Textile Workers Union, Local 2542. Managers, supervisors and union representatives were surveyed and interviewed. The program is in its first year.

2.) Pneumatic Scale, Corp., is a Quincy-based manufacturer of industrial equipment for bottling and dry packaging used in the food and beverage industries. The ESL program is largely union driven. The program focus is to provide workers with the skills needed to move up in the company structure. Higher paying jobs are available to workers who improve their skills. Students are primarily Asian. The union is the New England Joint Board, Mechanical and Allied Production Workers Union, Local 444, R.W.D.S.U., AFL-CIO. Only union representatives were surveyed and interviewed at this site. The site was added because of the high level of union interest in participating in the evaluation. The program is in its first year.

3.) TJMAXX Distribution Center,the Worcester-based east coast distribution center for a successful discount clothing store chain, is in its third year of service delivery. It offers ESL and GED preparation, although the primary program focus is to enhance the English language skills of Hispanic and Asian workers. TJMAXX is the only employer in the Worcester area to hire totally non-English speaking employees. Management considers the ESL program a major employee recruitment and retention tool. The program was founded largely through union efforts. The union is the International Ladies Garment Worker's Union, Local 313. Union officials want to offer their non-English speaking members some basic educational services which may increase their chances of job mobility and pay raises. Mobility inside the company is very limited.

4.) The health care industry is represented in the program sample by the City of Worcester Employees Program which has two sites: Worcester City Hospital and the Belmont Home, an elderly care facility. While turnover and retention of entry-level workers are important issues, they do not steer the course of the program as they do in other health care programs in the MWEI. Like other health care programs they are concerned with upgrading the skills of workers in housekeeping, dietary and basic patient care. Administrators at both sites stress the "education for education's sake" nature of their program. Union support for this program is strong, although protracted contract negotiations have strained the union/management partnership. The union is the Service Employees International Union, Local 495. This program is in its second year.

5.) United Electric Control Company, is a relatively small manufacturer of temperature gauge equipment located in Watertown. The large Armenian population in Watertown is well represented in this company, as are Portuguese, Hispanic and Asian workers. The company has been adapting Japanese methods of organization and production for some time. Workers are increasingly responsible for reorganizing their work stations to perform more efficiently. Suggestions for change are made through participation in "action groups." In addition to action groups there are other incentive programs to encourage imaginative participation in revamping production methods. If workers cannot speak, read and write well in English, their participation in action groups and other incentive programs is limited. They cannot communicate their ideas for streamlining the production process. This program is in its second year. There is no union.

6.) EASCO Hand Tool Company, is one of the oldest manufacturers of hand tools in Springfield. Bought out by a large holding company a few years ago, it is struggling to maintain a competitive edge with foreign markets. It was the hope of upper-level management and union representatives that the ESL and GED program would help the older Portuguese workers, who are the largest portion of the workforce, to learn new skills like blueprint reading. Skills like blueprint reading are needed to operate the new machines which are being installed to upscale production. The company has been laying off large numbers of workers for several years as it continually refines its product line. A recent decision to manufacture only ratchets resulted in even more layoffs and virtually decimated the workplace education program. The program is three years old. Early misconceptions about the changes which a workplace education program could bring about in relation to production needs continued to confuse the program into the last year. The two unions in this company fully supported the workplace education program, although as layoffs diminished even the old guard union leadership, understanding of and support for the program decreased. The unions are Local 22804, a directly affiliated AFL-CIO union, and the Steamfitters, Forgers, and Boilermakers Union, Local 1570. Local 22804 is represented in this pilot study.

Methodological Concerns

1.) All the protocols are designed to document the perceived changes in adult learners by managers, supervisors, and union representatives who work with, supervise or observe them regularly-- on a daily or at least weekly basis. Respondents are asked to comment in aggregate terms on the changes in workers whom they have observed. They are not asked to comment on each individual they know in the program (this would have been too labor intensive); they are asked to comment in general on the total group of participants. Inevitably respondents say that there are some adult learners who have demonstrated a tremendous amount of change, and others who have changed barely at all. The respondents struggle to evaluate what "in general" then means to them. Supervisors in particular who have close relationships with many of the student workers want to be able to comment on individual progress or lack thereof. They want to be able "to give credit where credit is due" as one supervisor put it. Since the protocols were designed to assess these aggregate perceptions of change, the problem rests with explaining this method and its overall usefulness to the respondents.

2.) The programs in the sample have been providing services for varying amounts of time. Thus, some managers, supervisors, and union representatives have a longer period of time on which to base their observations of change. Analysis of the data, however, suggests that there is no correlation between the amount of time a program has been established and the overall frequencies of responses to the survey questions. In fact, the relatively new program at Friction Materials, Inc. is viewed with relatively the same kind of favor as the three year old program at TJMAXX. In future studies, length of time of program would be cross-tabulated with selected other variables to test for significance.

3.) Union representatives were often also students in the program. This presented two kinds of problems. First, respondents who were new students with few English language skills found it difficult to read the questions and write their answers. Second, it was difficult for respondents to differentiate between their evaluation of their own experience in the program and their observations of change in their co-workers as a group. The first problem was resolved with relative ease in two programs by making the survey a group effort. The union member with the best English skills translated the questions when necessary into his native language (in these cases Vietnamese and Portuguese). This was followed by group discussion of the question in English. The second problem was addressed by gentle repetition by the evaluator that respondents were not answering only on the basis of their experiences as students. Both these issues need to be addressed more systematically in further data collection efforts.

4.) United Electric Control Company (UE) has no union. In order to exploit the data collection opportunity at this site, twelve supervisors were asked to participate in the survey. Thirteen supervisors were present at the group meeting and rather than ask one to leave, thirteen were surveyed. It could be argued that the greater number of supervisors from UE skewed the data. However, it was decided that in the pilot stage it was useful to gather data from a larger group which was easily convened and eager to participate in the evaluation. This group of supervisors are well informed about their program and rely on it to help them facilitate changes on the shop floor. Therefore their discussion as a group of the evaluation and of various aspects of their program contributed significantly to the evaluation. Furthermore, the responses from UE as a program do not in general differ significantly from the aggregate data. There is remarkable homogeneity in the responses across programs and the larger N from UE appears to just increase the pool of generally like-minded respondents.

5.) Responses to several open ended questions in both the union and supervisor protocols were coded after the respondents answered the questions. For example, Question 7, Part I of the supervisor survey which asks, "Generally speaking, do you see changes in people on account of the workplace education program? " elicited a range of 9 responses including, "People speak more English," "Work proceeds without as many interruptions as before," "Improved job performance," etc. Because of the similarity and overlap in the answers to this open-ended question in the supervisor group as a whole, it was possible to tally a percentage of response with a particular answer. For example, 64.3% of the supervisors said they observed more communication in English. This kind of tally is useful in looking at overall trends of response but it is not the same as pre-coding these potential responses on the questionnaire where they act as prompts for the respondents. In the case where answers are coded after respondents generally discuss their observations, the failure to answer one way or another cannot be construed as disagreement In a case where there is pre-coding, failure to respond (i.e.. failure to check off "communicate more in English") can be interpreted as disagreement with the variable. It was not possible to fully pre-code the pilot questionnaires. However, subsequent studies should make lavish use of the responses gathered in the open-ended questions and pre-code as many questions as possible. Question 6 in Part I and Questions 1, 3 and 5 in Part III of the union survey, as well as Questions 4 and 7 in Part I and questions 1, 3 and 4 in Part III of the supervisor survey are open-ended and were coded after they were answered.

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Demographics

A total N=53 participated in the survey: 19 union representatives, 28 supervisors, and 6 managers. A total N=18 were interviewed: 6 union representatives and 12 supervisors. The demographic analysis for survey and interview respondents is as follows:

Union

Of the 19 union representatives surveyed, 6 were from Pneumatic Scale; 2 from Belmont Home; 5 from EASCO; 1 from Friction Materials; and 5 from TJMAXX. Fifteen (78.9%) of the respondents are men; 4 (21.1%) are women.

A total of 9 respondents (47.4%) are white and native English speakers; 4 (21.1%) are Vietnamese with Vietnamese as their native language; 2 (10.5%) are Hispanic with Spanish as their native language; and 2 (10.5%) are Portuguese with Portuguese as their native language; 1 is Black American with English as his native language. N=1 is missing data. Ten (52.6%) of the union survey respondents are under 40 years old; 8 (42.1%) are over forty. N=1 is missing data. Ten (52.6%) of the union survey respondents describe their status in the union as "members". Six (31.6%) are stewards. Three (15.9%) are officials including financial secretary, trustee and vice president.

Of the 6 union representatives who were interviewed, there are 2 white men over 40; 1 white woman over 40; 1 black man over 40; 1 Hispanic man under 40; and 1 Vietnamese man under 40. There are 3 members, 2 stewards, and 1 Vice President.

Union representatives come into contact with different numbers of students and with varying frequency. Fifty-two percent (52.6%) can identify 5 to 10 people who are enrolled in the program. Twenty-six percent (26.3%) can identify more than 10. Only two people (10.5%) reported knowing fewer than 5 students. Almost thirty-seven percent (36.8%) come into contact with students all day every day. Sixty-three percent (63.1%) come into contact with students at least a few times a day. Four respondents (21.1%) come into contact with students a few times a week.

Supervisors

Twenty-four (85.7%) of the supervisors are men; 4 (14.3%) are women. Twenty-seven (96.4%) are white and native English speakers. One supervisor is Hispanic and Spanish is his native language. Thirteen of the supervisors (46.4%) are under 40 years old; 15 (53.6%) are over 40.

Of the 12 supervisors who were interviewed, there are 7 white men over 40; 3 white women over 40; 1 white woman under 40; and 1 white man under 40.

Supervisors come into contact with different numbers of students and with varying frequency. Fifty percent (50%) can identify under 5 people who are enrolled in the program. A total of 22 of the respondents (78.6%) can identify up to 10 people who are enrolled in the program. Thirteen (46.4%) come into contact with students all day every day. Slightly more than eighty-five percent (85.7%) come into contact with students at least a few times a day. Four respondents (14.3%) come into contact with students a few times a week.

Managers

Two managers each at Friction Materials and TJMAXX participated in the management interview, but they are counted as 1 at each site and were coded according to the demographic characteristics of the senior manager. (In both cases, the managers shared the same demographics as well as the same answers to the interview questions.) Because the purpose of the management interview was to collect "hard data," it was not appropriate to record differences in perception of variables. If differences did exist in discussion, they were resolved in the course of the interview. Managers at the 2 health care sites were interviewed separately and are counted as 2. Pneumatic Scale management was not included in the study. There are 4 men and 2 women (Worcester City Hospital and TJMAXX) in the manager group. They are all white and native English speakers. Their age range is divided equally below/above 40 years.

Summary

There are 43 men and 10 women in the total respondent group. The majority of respondents are white males over 40 who are native English speakers. While it is not surprising that this group is well represented at the supervisor and union levels, it is important to note the general lack of racial, ethnic and language diversity in the group and the difference between this group and the student worker group. The student group is primarily women over 40 who are not native English speakers. (See Adult Learner Evaluation.) One can discuss the cultural biases in the observations of white men on women of diverse racial and ethnic origins and speculate about the influence of these biases on the data in this study. As subsequent portions of this report will demonstrate, the observations of changes in student workers by the union, supervisor, and management groups were generally positive, and supportive of continuing the workplace education programs. At this point in the analysis it is fair to conclude that the data were not biased in any obvious way but the issue warrants continued attention. The concepts, language, and emotional import of white managerial culture suffuse the study.

The union survey respondents are divided between white Americans (N=9) and a group of Asian, Hispanic, Portuguese and Black people (N=10). Although the margin is narrow, there is greater representation from groups which constitute the student population. Union leadership (N=9) is well represented.

Areas of Convergence: Workers, Unions and Management

This section of the report discusses those variables which are common to the four sub-studies which compose the evaluation. Workers, union representatives, supervisors and managers included common variables in their separate questionnaires. Occasionally just two of the groups commented on the same variables. For example, managers and union representatives commented on absenteeism rates, but supervisors did not. Convergences between two protocols will also be discussed in this section. Convergence does not always mean that questions were asked in exactly the same fashion protocol-to-protocol. Convergence does mean that certain questions across protocols are concerned with similar variables.

There are six general areas of convergence. The following questions inform the discussion of each variable within the area:

- What is the variable trying to measure, and why and to whom is it valuable?
- How are the total frequencies of responses similar or different across the respondent groups?
- What do the similarities or differences in response signify about the groups' relationships to the program and to each other?
- Are there significant differences in response to a variable program-by-program and what do these differences signify?
- How does the program context explain the importance of a variable?
- Is this a variable which should be discarded, refined, or kept as is?

Total frequencies are based on N=148 for workers; N=19 for union representatives; N=28 for supervisors; and N=6 for managers. These are the numbers of surveys conducted for each group. Interview data is used to facilitate analysis of the survey data and to provide illustrations of main points. Wherever the difference between the percentage of response based on total frequency and the percentage of response by particular union or supervisor group exceeds ten to fifteen points, or is noteworthy for other reasons, that difference is noted. Otherwise one can assume congruency between the total union or supervisor frequency and the individual program frequencies. For example, 73.7% of all union representatives agreed that they wanted their workplace education program to change working conditions but a full 100% of the union representatives at TJMAXX agreed that they wanted their workplace education program to change working conditions. This difference is noteworthy.

The Desire for Change and Perceptions of Success

Almost all of the supervisors and almost three-quarters of all union representatives said that they hoped their workplace education programs would bring about desired changes at the workplace. This demonstrates that union representatives and supervisors have distinct ideas about the role and purpose of a workplace education program at their worksites, and suggests that they are willing to support the program in order to bring about desired changes. Specifically, 96.4% of supervisors and 73.7% of union representatives stated that they wanted their workplace education program to change conditions at work. Fully 100% of TJMAXX union representatives said that they wanted the program to change conditions at work.

What are the kinds of changes they wanted to have brought about? Coding of answers to the open ended question, "What did you want to change?" includes nine items for supervisors: better communication/more communication in English, less time translating, more positive attitude toward work and others, improve attitudes toward different cultural groups, increase job performance, improve reading skills for directions, make training easier; decrease supervision, and increase self-confidence. Coding of answers to the same question includes seven items for the union group: better communication/more communication in English; want more people in the union; better math skills; more blueprint reading; become eligible for promotion; learn more about job related terminology; and upgrade job skills. The highest percent of response to any of these items is 64.3% for the supervisor group who want better communication/more communication in English. In contrast, 36.9% of union respondents said they want better communication/more communication in English. This % may reflect the limitations of the coding-after-completion method described above as much as it reflects an actual difference in response. The difference in range and specificity between the coding scheme for the supervisors and union representatives also seems to reflect the dual identity of the union respondents as students and union members. Given the overall context of answers to this question in the survey and interviews for both groups, it is fair to say that union representatives and supervisors are generally agreed that a primary purpose of workplace education programs is to improve English language skills.

This correlates with student perception that speaking more English is among the most important things to learn (85.8%), as is reading English (85.8%). It also clarifies that ESL predominates as the educational service which is most needed, at least in this sample of six programs. It is significant to note that in general the stated goals are relationship and skill oriented and not phrased in terms of production, pay or mobility. In general these are the kinds of variables which both supervisors and union representatives value when left to define goals by themselves, not goals about following rules or learning procedures. One can argue that some of these relationship and skill oriented goals are tied to production. While it is clear that some supervisors ultimately see these goals in the service of enhanced production, it is significant that the goals are not expressed that way.

Have the programs lived up to the expectations of the respondents? Have workers changed or learned on account of their participation? Have working conditions changed? More than three-quarters of the supervisors (78.6%) say that in general they see changes in people as a result of their participation in a program. They see changes that include workers' speaking more English, understanding assignments better, being more self-confident, solving problems more, contributing their own ideas more, working without many interruptions, having a more positive attitude, working independently, and improved job performance. Over half of the union respondents (57.9%) say that conditions at work have changed on account of the program. Eighty percent (80%) of the EASCO union respondents said that conditions at work have changed as a result of the program. The kind and quality of change in working conditions is best described by a union representative who said, "When a student understands English, he can express opinions about how to work better and can take directions. If he can't speak, then he's afraid to express his views even if something is wrong." The relationship between knowing how to speak and speaking up is clear for both union respondents and supervisors.

New Skills Applied on the Job

A significant majority of respondents see an application of skills learned in the classroom to the worksite. In this section of the report, skills are defined in their educational context as reading, writing, speaking, and computing. The ways in which these skills are applied are varied and include a range from writing and reading memos, messages, manuals, and forms to giving and taking directions; being able to converse in general with co-workers; counting parts and other measurements; saving time; increased problem-solving. Three-quarters (75%) of supervisors say reading skills as applied on the job have increased. (Eighty percent of the health care program supervisors and 83% from TJMAXX said reading skills as applied on the job have increased.) Over three-quarters (83.5%) of the workers say reading is among the most important things to learn; 66.9% say they read more English outside of work. If workers report that they read more English outside of work, it is fair to infer that when needed they read more English on the job as well.

Over half of the supervisors (57.1%) say writing skills have increased. (83.3% TJMAXX supervisors report an increase in writing skills). Well over three-quarters (87.25%) of the workers say that writing is among the most important things to learn. And 62.8% of the students say they write more English outside of work. If workers report that they write more English outside of work, it is fair to infer that when needed they write more English on the job as well.

Almost three-quarters of the supervisors (71.4%) say that workers' English speaking skills have increased. Eighty percent (80.4%) of the workers say that speaking English is among the most important things to learn; 65.5% of the workers say they speak more English outside of work. If workers report that they speak more English outside of work, it is fair to infer that when needed they speak more English on the job as well. Also, 52% of the workers say they understand directions better; 50% talk more with their supervisors; 50% talk more with other workers.

Only 28.6% of the supervisors saw an increase in math skills as applied on the job. (Over half– 57.1%-- stayed the same; N=4 missing data.) Supervisors at the United Electric Control Company saw only a 15.4% increase in math skills; there was a 50% perceived increase at TJMAXX.) Only 43.9% workers say math is among most important things to learn. The obvious conclusion is that the program is ESL biased. A question which remains to be answered is, "Do math skills need attention?"

The Quality of Relationship to Oneself and to Others

In general, union representatives and supervisors agree that participation in workplace education programs changes workers' views of themselves and their relationships with other workers. Well over three-quarters of both supervisors and union respondents (85.7 % supervisors; 78.9% union respondents) see an increase in workers' self confidence. Fully 100% of the health care supervisors and those at TJMAXX see an increase in self confidence. More than half (51.4%) of the workers report they have more self-confidence on the job.

There were many illustrations of these changes. There were several stories about shy workers who would not speak up or look a supervisor in the eye who now speak up and contribute ideas. There were several stories about workers taking greater charge of the work process and even helping other workers. The following comments by supervisors and union representatives summarize the importance of increased self-esteem as an outcome for workplace education programs: "This one outcome alone might be worth the whole workplace education effort because it appears to correlate with so much. If you feel good about yourself, you'll do good work. Believing you can do it is half the battle"; "Workplace education decreases limitations. It's important to learn that the guy next to me isn't any smarter than I am-- I can learn, too."; "I'm not sure I see gigantic changes in skills but I see changes in people's sense of qualification to do the job. That's more than half of it."

It is interesting to note the difference in change in self-confidence perceived by others and the change perceived by the workers themselves. This data indicate that it is more difficult to witness this change in self-confidence in oneself than for others to witness it. There is still essential congruency in the data.

Almost three-quarters (73.7%) of the union respondents see an increase in cooperation among workers. Slightly fewer (60.7%) supervisors see increased cooperation. (A majority-- 80%-- of the health care supervisors see increased cooperation.) Half of the workers say they talk more with other workers. While there is general agreement that a sense of cooperation among people who are working together improves the atmosphere of the workplace and is, therefore, to be valued, this is a case where the variable is best understood in program context. At the United Electric Control Company, for example, there is increasing need to rely more on members of one work station to create stock as needed. Increasing cooperation among workers through class participation enhances the ways in which people actually work together in their working groups.

Conversely, more than three-quarters (78.9%) of the union respondents say workers work more independently. (100% of the TJMAXX union respondents said workers work more independently.) Almost three-quarters (71.4%) of the supervisors say the same. The point underlying this variable is that workers learn enough English so that they understand directions, feel confident about their abilities to perform their jobs, and therefore do not have to be supervised as carefully. More than half (52%) of the workers say they understand directions better.

Perception is very high among supervisors that program participation has increased job satisfaction- 71.4%. The perception of increased job satisfaction among union respondents is less- 47.4%. In fact, only 20% of TJMAXX union respondents saw an increase in job satisfaction, but 100% of the Pneumatic Scale union respondents saw an increase. This disparity is a function of the type of work at each worksite and the opportunities for promotion. At TJMAXX work is rote and union representatives do not confuse satisfaction with these jobs as jobs with feeling good about one's ability to perform. Even a supervisor here said, "Workers are happier with themselves but not with their jobs. There's not much mobility here." The opportunity for promotion at Pneumatic Scale as well as the more interesting nature of the work influences the response at that site. Nonetheless 45.9% of the workers say that they are happier at work; 41.9% say they like their job more. One supervisor provided this insight into these worker responses: "If a person can express himself in English, he must feel more satisfied with his job."

Only 50% of the supervisors say there is increased understanding of multi-cultural issues among workers. Slightly more-- 52.6%-- of union respondents see an increase. It is important to note here that the supervisors are almost all white. Many expressed the need to address how different cultures' styles of behavior affect the work environment. Based on interviews and group discussion, it appears that this is as much a need for the supervisors themselves as for the workers.

The Bottom Line

Despite the fact that the language of production does not dominate the responses to open-ended questions about the goals of workplace education, supervisors are very interested in the relationship between learning new skills and increasing production. When asked if participation in a program has changed workers' productivity, 60.7% of the supervisors say it has increased. A majority of workers (80.45%) say that participation in the program has changed how they do their work. This is a significant finding given industry's overall agenda about the value of investing in workplace education. It appears that much is given back by the workers. More specific ways one might traditionally measure productivity are addressed by the following variables:

Safety. Almost half (43.2%) of the workers say they can do their job more safely. Almost three-quarters (73.7%) of union representatives see an increase in awareness of health and safety, usually on account of the ability to read and speak more English. But 83.4% of the managers say that numbers of work-related accidents have stayed the same. A few union representatives see a decrease in job-related accidents; but mostly (68%) the perception is that they stayed the same.

Errors. A small percentage-- 29.1%-- of workers see themselves as making fewer mistakes. Half (50%) of the managers see a decrease in error rate but this must be seen in the context of the worksite. At Friction Materials, for example, there is a clear focus on reducing errors through statistical process control. This variable is an admitted criteria for success in this program. In other programs, managers are skeptical of this measure: "This is something you'd expect to see as a result of increased self-confidence, but it should never be the main focus."

Absenteeism. While 16.2% of workers saw themselves as absent less often, only two out of the six managers would speculate that absenteeism had decreased. In general, managers agreed that workers who are enrolled in class tend to come to work and not have problems with absenteeism. Managers tend to hold the same opinion for the two variables, late call and sick call, although at TJMAXX these are procedures which need to be taught to new employees, especially if they do not speak English well. Again, this is a case of variables having meaning in the context of program needs and goals.

Retention. Managers do agree that retention of employees may be increased through offering educational services, if there is a need to retain employees. Hospital management asserted this need as did management at TJMAXX. EASCO on the other hand, plagued by layoffs initiated by management, does not view the program as a retention tool. Employees would stay there as they have for years if it were possible, program or no program.

Mobility. More than a third (36.5%) of the workers said they think their chances of promotion are improved by being in a program. But 4 out the 6 managers (66.7%) said that they saw no change in mobility. This is another variable that is dependent on the nature of the industry and internal opportunities for advancement. At Pneumatic Scale (not represented in the management sample) there is opportunity for movement. This is reflected in the 26.3% response by union members (still quite small) that mobility increased.

Salary. Well over three-quarters (84.2%) of union respondents saw no increase in pay on account of participation in a program. Raises are linked to contract negotiations and not to educational levels. And 83.3% of the managers concurred that there was no accompanying raise in salary. These variables need to be examined closely in light of the MWEI's goals to increase mobility and increase earning power through education. A long-term follow-up study of students may put to rest once and for all the presumed, untested correlation between increased educational levels and more money and better jobs for the workers in our sample. The lack of increased pay and mobility should in no way be construed as a failure of workplace education or as the failure of the workers to live up to their potential. Rather, goals and outcomes which realistically reflect the experiences of workers and the realities of the workplace can replace increased pay and job mobility.

Changing the Program Structure: Increased Involvement by Union Representatives and Middle-Level Management

Almost two-thirds (60.7%) of the supervisors say their opinion of the program has changed in a positive direction. Approaching half of the union respondents (42.1%) say their opinion has changed. They frequently state that they are more positive about the program now than at the start. This is an example where the coding of an open-ended question after it has been answered influences the percentage of response. Perhaps more supervisors and union respondents would have said they are more positive now if this choice had been included on the questionnaire.

The majority of supervisors (75%) and union representatives (84.2%) want to learn more about workplace education in general. They especially want to know how other programs work and how their own program can be improved. A significant finding of this pilot study is that many supervisors and union representatives would like a seminar or education day to learn more about workplace education.

Roughly half of the supervisors (53.6%) and the union representatives (47.4%) would like to alter the structure of their programs. Above all, they want to be more systematically integrated into program development. Some union stewards see that supervisors are more integrated into program life than they and would like to be viewed on par with the supervisors. This is a new way of looking at the relationship of stewards and supervisors to the workplace education program. Viewed as ratio, stewards are to union members what supervisors are to workers. Much is understood now about the critical role supervisors play in supporting workplace education programs. Attention needs to be paid to the role of stewards in the union/program structure. Both supervisors and union representatives want feedback from teachers on the success or failure of their program. They want teachers to spend more time on the shop floor and to integrate more work issues into the curriculum.

Surprisingly, most supervisors (82.1%) say that the program does not demand a lot of time and energy from them, even though they obviously take the time to support the program. Fully 87.2% of students say they were encouraged to participate in the program, 54% by supervisors. Only 36.8% of union respondents say the program is not demanding and the same percentage say it is demanding. The confusion in the union sample between answering the questionnaire as students in the program vs. observers of change in others may be evident in these percentages. Students see their program as demanding, in a positive way.

The Company as a System

Loyalty to the company is a variable perceived with mixed value, of interest to upper-level management in particular where there is hope that loyalty might result from the education benefit. Half (50%) of the supervisors say that workplace education programs have increased loyalty to the company but there were many qualifiers. For example, "You just have an inner feeling of pride. Companies have no sense of loyalty to the worker or vice versa. Loyalty went out in the sixties." "For the most part workers don't feel that the company is just out for itself. But after a point they realize that the company is making millions. This is the first time the contract wasn't voted in the first time through." "It's not education that makes loyalty but longevity."

Understanding overall business operations is a variable which yielded interesting results. More than two-thirds (67.9%) of the supervisors say that workers' understanding of overall business operations has increased. Almost three-quarters (73.7%) of union respondents say that understanding company competitiveness has increased. This is another variable which needs to be understood in program context. All 100% of EASCO union representatives answered "increased" for this variable because they know that their program is built on the premise of making the company more competitive. It is a variable which makes sense in companies where quality control is a factor. One steward commented that while this relationship was not one he would have given a lot of thought to, it was a good one to think about.

The Interests of Unions

After preliminary discussions with union leaders and members about the overall goals of the pilot outcome evaluation, it became clear that the evaluation process could help unions to clarify both the nature of their interests in the workplace education partnership and their specific goals and objectives in supporting local programs. Therefore, the pilot protocol was an attempt to identify variables which have particular importance and use for labor unions. The protocol was developed in concert with three union leaders who commented extensively on the range of variables which would be appropriate to include in a pilot questionnaire. In general, the pilot union-specific variables worked well. The degree of "labor consciousness" in the observations of the union respondents is remarkably high. The breakdown by variable is as follows:

- A large majority of the respondents (84.2%) saw an increase in union members' understanding of the importance of education as it relates to job and life improvement. This is an important general finding. Education is more highly valued on account of the workplace education program.

- Two-thirds (63.2%) of the respondents saw an increase in students' understanding of what a union is and can do for its members. More than three-quarters (78.9%) saw an increase in the awareness of the range of benefits offered through the union, though 100% of the Pneumatic Scale respondents saw an increase in this awareness, testifying to the strength of the union presence in that program.

- Two-thirds of the respondents (63.2%) saw an increase in identifying problems on the shop floor as union concerns. Only 52% saw an increase in understanding the grievance procedure. Percentages continue to drop in areas involving interest in becoming a steward or officer or becoming a more active participant in union meetings. Only 31.6% of the respondents saw an increase in interest in becoming a steward or union officer; and the same percentage (31.6%) saw an increase in involvement in union meetings. This means that two-thirds of the respondents saw no change on these variables. Only 21.1% saw increased interest in negotiating benefits on union contracts. Three-quarters (73.7%) saw an increased understanding of the union role in creating and supporting the workplace education program. Appreciation of the learning process and of the union role in creating a workplace education program does not necessarily result in increased union involvement.

- About half of the respondents saw an increased understanding of how seniority is important in the union structure. EASCO strays noticeably from the fold on this issue with 80% saying there was no change in understanding of seniority. This reflects the degree to which workers, all of whom are union members, understand the seniority structure in a company where there have been many layoffs and where seniority may protect a worker from losing his job. As a general point, program context here is essential to understanding the meaning of the percentage of "no change" response. One could wrongly assume that workers were simply not adequately instructed on seniority issues. Respondents saw an increase in understanding the terms of both the formal and informal union contracts-- 68.4% and 52.6% respectively. Based on the questions asked of the evaluator during the survey, it is clear that some union members did not understand the difference between formal and informal contracts. This was a subtle concept to discuss fully in those sites where all the parties involved did not speak the same language-- two sites, especially. Therefore, the extent to which these percentages reflect full or partial understanding of the question is not clear.

- Surprisingly, 63.2% reported increased understanding of labor history. This is surprising because labor history is not a large component of workplace education program curricula. Perhaps participation in class combined with learning about the union role in creating a workplace education program generally enhances curiosity about and knowledge of labor history.

- Finally, 63.2 % said they wanted to include educational services as a negotiated issue on union contracts. In general, there was an understanding that if a union does not advocate for its members in this regard, then the company retains all the power to keep or cancel the program.

The Interests of Management

Six mangers were interviewed using the Mangaement Evaluation Fact Sheet. The managers represent all the companies in the sample with the exception of Pneumatic Scale. The fact sheet was designed to identify those "core" measures which all managers might agree are the ultimate test of success of workplace education programs-- those variable which would presumably retain their importance across industries and program groups. These variables include: rate of absenteeism; being on time; job retention; rate of job related mistakes and errors; rate of job related accidents; following procedures for calling in late and calling in sick; changes in salary; job mobility; and the dollar impact of a workplace education program on a company.

In general, this group of six managers expressed a combination of the following sentiments about workplace education and its outcomes: 1.) There should be basic "human" support for workers to have access to opportunities to better themselves; 2.) Fostering an environment of learning improves company morale and improved morale correlates with other benefits to the company, even if those benefits are not immediately or concretely identifiable; and 3.) There is a desire to know how to measure the specific workplace education benefits to the company, especially in terms of errors/waste, productivity and cost savings. Managers stress one point over another, depending on the degree of immediate company need for a more skilled workforce, length of experience with their program, and general orientation to human resource development .

Rather than demonstrate the general consensus of managers about both the desired and actual outcomes of workplace education programs, the results of the management study underscore the diversity of workplace education needs and goals on an industry-to-industry and company-to-company basis, and the need to identify diverse measures of program-related productivity and cost savings.

The following are the findings of the management study not already discussed in prior sections of this report. Insights and trends are described here; percentages of response are reported above in the section called The Bottom Line.

- Workplace education programs are one way to give back to employees a small measure of what they give a company. Expressing this position, one manager said: "The program shows potential employees that we are a good employer. We are always asking these people to give something-- to give of themselves on the job for not much pay, to give to charities, etc. This program is the first thing in ten years to be a really special opportunity [for them]." Qualifying the value of "core" measures of success, another manager said: "[Measuring outcomes] could be done but not in black and white way. Our company isn't interested in just quantifying. Other measures are more appropriate here. We value the 'warm and fuzzy' way of judging our program. We care about people."

- There is an interest in separating student and company outcomes, so that program assessment should focus dually on the learning of the students as students and on the impact of the program on the company. Both sets of outcomes are equally valid.

- Workplace education programs are retention tools for companies with an employee retention problem. Literacy is a service that holds young workers especially because the benefits are immediate--"here and now", as one manager put it, as distinct from long term benefits like pension, life insurance, or even health insurance. "We have saved dollars by keeping people here on account of the program," said one manager. "It costs us time and money to train people and to pay for time giving instructions, correcting mistakes. The big issue is having a stable workforce who know their job."

- Workplace education programs are new and companies have not been able to collect data over a long enough period of time to determine if variables identified in the fact sheet are the most appropriate or representative measures of success. The best that managers can do at the present time is make an informed judgement about some of these variables. If they set up a system, with the assistance of the evaluators, to track information over time, in a few years managers will be able to report something definitive. Is there a way to help different companies establish some data collection system that is meaningful to them? Managers think there is. Some companies like TJMAXX already have a data collection system in place and it would be possible to work with this system to make it more relevant to workplace education.

- The relationship between mistakes and errors, productivity, and measurements of the cost savings which workplace education programs can deliver, interests managers greatly. There is a general assumption that job related mistakes and errors would decrease over time (and overall competency increase) as a result of worker participation in workplace education programs, even if these results are not currently demonstrable. If the actual number of accidents stays the same, there is agreement that workplace education programs enhance the safety of the workplace. Workers can read signs, assess risks, ask questions and ask for help more freely when the work environment fosters learning. One manager gave the example of an accident-prone employee who stopped having accidents after enrolling in a program. The manager attributed the decrease in accidents to "improved judgement and listening skills." In a hospital kitchen, the likelihood of placing salted or sugared foods on trays for patients with restricted diets is reduced if workers read better and feel free to ask questions about what they do not understand. These examples demonstrate the relationship between reduced errors, and the quality of the "product" of patient care and infer some cost savings to the company/agency.

  In a manufacturing company, measuring scrap is not only a quick measure of mistakes and errors but also of the relationship of mistakes and errors to productivity. At Friction Materials, for example, within two weeks of instituting a work specific ESL curriculum, the company saw a 40% reduction in scrap and a tremendous financial savings. (The scrap rate used to be about 60%; now it is 16%. Before the ESL class the company was throwing away more in scrap than it was using in products. See the Friction Materials Program Profile, pp. 82-87 of this report.)

  Only Friction Materials-- one out of six in the sample-- has a concrete way to measure the cost benefit of their workplace education program. Other manufacturing companies cannot so readily measure decreases in scrap. (For example, in some companies, many operators work one machine and it would not be possible to attribute decreases in scrap to one operator who is enrolled in a workplace education program.) When a manager from another company stated politely that he "...would be very interested in working with others to develop these [cost benefit] measures," he expressed the opinions of the remaining five managers. (Only one company manager had not really thought about the cost saving issues and admitted that cost would become an issue when they were faced with paying for the program themselves.). Company managers agree that they need help to look carefully and creatively at the ways in which workplace education programs save them money, thereby making it possible to justify ongoing support of the education program after State funding is no longer available. Managers identified the following areas as possible starting points for measuring the dollar impact of their workplace education programs and welcome the assistance of the evaluators and State partners in helping them continue to identify and refine these measures. Future outcome evaluations should explore these "starting points" more fully and attempt to operationalize them in ways that are meaningful company to company.

- Scrap or waste, however that is defined in a company
- Self esteem and its relationship to "productivity"
- Translation time (for ESL programs)
- Time spent giving instructions
- Understanding other cultures
- Heightened awareness of educational needs.
- Continuity of educational services from ESL through ABE and on to the community college and/or training level.

Table A: Outcome Variables Identified in the Formative Evaluation

1. Absenteeism
2. Retention
3. Safety (number of accidents)
4. Following procedures for
    a. calling in late
    b. calling in late
    c. utilizing health insurance and other benefits
    d. union involvement
5. Punctuality
6. Actual/desired increase in pay
7. Actual/desired job mobility (inside company or outside company)
8. Job satisfaction
9. Self-confidence
10. Self-esteem
11. Ability to work independently
12. Ability to work with others
13. Communication with children in English
    -dependence on children as translators
    -ability to help with children's homework
14. Communication with spouse in English
15. Communication with other family members in English
16. Participation in political process (including voter registration, community advocacy)
17. Attain citizenship
18. Awareness of current events
19. Awareness of community resources
20. Willingness to venture outside neighborhoods
21. Ability to negotiate other institutions (hospitals, schools, etc.)
22. Awareness of city history and own place in it
23. Need for counseling support
    - family changes
    - abuse/other
24. Sense of camaraderie among co-workers
25. Loyalty to the company
26. Ability to communicate to others
    -oral
    -written
    -reading
    -computational
27. Need for translation/formal or informal
28. Various productivity measures (including but not limited to increased piece work)
29. Understanding of overall business operations and the interrelations of various work areas
30. Sensitivity to awareness of cultural factors influencing
    -relationships among co-workers
    -relationships between workers and supervisors
    -relations between workers and clients (where applicable)
31. Ability to read
    -memos
    -telephone messages
    -manuals
    -bills of sale
    -forms (inventory lists, requisition forms, balance sheets)
32. Reasoning skills: sequencing
33. Reasoning skills: cause/effect
34. Awareness of the cost of functional illiteracy at the worksite
35. Awareness of partnership model as integral to workplace programs
36. Awareness of supervisors' evaluation of one's work performance

[For supervisors]

37. Reduce disciplinary problems
38. Less time giving instructions
39. Less need for translation
40. Attitude change toward workers, i.e. greater sympathy for difficulty of learning new language
41. Awareness of cost of functional illiteracy

[For union members]

42. Workers' involvement in union meetings
43. Speaking up about union structure and its responsiveness to worker's needs
44. Awareness of union rights/benefits
45. Awareness of cost of functional illiteracy

[For management/personnel/teachers]

46. Awareness of cost of functional illiteracy
47. Awareness of partnership model as central to implementing programs.

The Adult Learner Perspective

Introduction and Methods

For the second consecutive year, the adult learners' perspective has been a major component of the MWEI evaluation. Four sites were selected for study in last year's evaluation and data collection was conducted through written questionnaires for all adult learners at those sites, plus oral interviews on a smaller sample at each site. In addition to gathering some personal demographic data, emphasis was placed on class participants' views of their reasons for taking the class, their expectations, support for taking the class, difficulties in attending, impact on job performance and life outside of work, suggestions for improvements, and overall satisfaction with the learning experience. A very positive report resulted which demonstrated that: 1) work-release education was highly valued by class participants, and 2) that it had a beneficial impact on their lives, both on and off the job.

The adult learners' viewpoint was evaluated in a parallel manner this year. Classes in a new selection of five sites were given written questionnaires, and a smaller sample were interviewed orally. In order to reflect areas of convergence with the union and manager/supervisor component, last year's instruments were modified and expanded. Additional refinements were made based on the previous evaluation's findings, input from teachers and coordinators, and proverbial "hindsight." The remainder of this section highlights site selection and the companies chosen, and the methodology used in the preparation and implementation stages of data collection for this year's evaluation.

Site selection was based on the following criteria: type of industry; presence of a union; age, gender, and ethnic composition of the adult learners; type of educational service provided; prior participation in the MWEI evaluation; and the interest of the local partnership. The programs at EASCO Handtools Company, and TJMAXX Distribution Center were evaluated last year and were reselected for inclusion in 1989. The sites joining the evaluation for the first time were the City of Worcester Employees at Worcester City Hospital and the Belmont Nursing Home (considered as one site), Digital Equipment Corporation, and the United Electric Controls Company. In order to briefly acquaint the reader with these companies, some background material has been included below:

> **United Electric Controls Company** (UE) is a relatively small manufacturer of temperature gauge equipment located in Watertown. The large local Armenian population is well represented in this company of 400 employees, as are Portuguese, Hispanic, and Asian workers. There is no union. The SDA is Middlesex County - E.R.I., Metro North. The learning provider is Middlesex County Employment and Training, and the program is in its second year. All the classes at UE are English as a Second Language (ESL), and the total enrollment as of March, 1989, was 36. The program averages 35-40 adult learners on a steady basis, and most of them are in their second year of ESL classes. A total of 28 adult learners participated in the evaluation.
>
> The company has been adapting Japanese methods of organization and production for some time. Workers are increasingly responsible for reorganizing their workstations to perform more efficiently. Suggestions for change are made through participation in "action groups." In addition to action groups, there are other incentive programs to encourage imaginative participation in revamping production methods. If workers cannot speak, read and write well in English, their participation in action groups and other incentive programs is limited in that they cannot communicate their ideas for streamlining the production process.
>
> **EASCO Handtools Company** (EASCO) is one of the oldest manufacturers of hand tools in Springfield, and employs 300 people. The SDA is the Hamden County Employment and Training Consortium. The program is in its second year, and the learning provider is The Massachusetts Career Development Institute (MCDI). The company has been in transition, and as a result of streamlining, an older Portuguese male population of workers has evolved. The total enrollment as of March, 1989, was 33, which is approximately the same as last year. Eighteen were enrolled

in ABE/GED classes, and 15 in Advanced Math. The Advanced Math course was offered per the request of many of the company's graduates of the GED class from last year. One hundred percent of the adult learners participated in the evaluation.

Bought out by a large holding company a few years ago, EASCO is struggling to maintain a competitive edge with foreign markets. It was the hope of upper-level management and union representatives that the ESL and GED program would help the older Portuguese workers to learn new skills like blueprint reading. Skills like blueprint reading are needed to operate the new machines which are being installed to upscale production. The company has been laying off large numbers of workers for several years as it continually refines its product line. A recent decision to manufacture only ratchets resulted in even more layoffs and virtually decimated the workplace education program.

Early misconceptions about the changes which a workplace education program could bring about in relation to production needs continued to confuse the program into its last year. The two unions in this company fully supported the workplace education program, although as layoffs diminished even the old guard union leadership, understanding of and support for the program decreased. The unions are: Local 22804, a directly affiliated AFL-CIO union, and the Steamfitters, Forgers, and Boilermakers Union, Local 1570. Local 22804 is represented in this pilot study.

Digital Equipment Corporation (DEC) refers to the Westminster branch office of the larger Digital Equipment Corporation. This location of the computer hardware and software manufacturing company has about 1200 employees, most of whom live in nearby Gardner. Massachusetts Private Industry is the SDA, and the learning provider is Mount Wachusett Community College. The program is in its first year, and reported a total of 41 enrolled adult learners as of March, 1989. Seventeen were enrolled in ESL classes, and 21 in ABE/GED classes. Thirty-three participated in the evaluation.

The integration of the DEC "basic skills" program into the broad offering of courses and seminars available through the company's Training and Development unit distinguishes this program.

T.J. Maxx Distribution Center (TJMAXX), a Worcester-based company of about 750, is the east coast distribution center for a successful discount clothing store chain in its third year of service delivery. The Metro South/West SDA works with TJMAXX. The learning provider is the Center for Lifelong Learning at Quinsigamond Community College, also in Worcester. It offers ESL and GED preparation, although the primary program focus is to enhance the English language skills of Hispanic and Asian workers. The total enrollment as of March 1989 was 60, with an average of between 35 and 40. The number of adult learners participating in the evaluation was 42.

TJMAXX is the only employer in the Worcester area to hire totally non-English-speaking employees. Management considers the ESL program a major employee recruitment and retention tool. The program was founded largely through union efforts. The union is the International Ladies Garment Worker's Union, Local 313. Union officials want to offer their non-English speaking members some basic educational services which may increase their chances of job mobility and pay raises. Mobility inside the company is very limited.

City of Worcester Employees (CWE). The City of Worcester Municipal Employees' workplace education program is situated in two sites: Worcester City Hospital (900 employees) and the Belmont Home, an elderly care facility of 178 employees. Its SDA is Southern Worcester County, the learning provider is the Worcester Adult Learning Center, and the program is in its second year. A total of 26 had enrolled as of March, 1989, with 8 in ESL and 18 in ABE/GED classes. The average enrollment was 16, which is about the same as last year. A total of 16 took part in the evaluation.

Like other health care programs in the MWEI they are concerned with upgrading the skills of entry level workers in housekeeping, dietary and basic patient care. While turnover and retention are important issues, they do not steer the course of the program. Administrators at both sites stress the "education for education's sake" nature of their program. Union support for this program is strong, although protracted contract negotiations have strained the union/management partnership. The union is the Service Employees International Union, Local 495.

Questionnaire Development and Distribution

As previously mentioned, the questionnaire from last year's study was redesigned to incorporate the areas of convergence, and refinements were made based on the experience gained in its administration. A meeting was held for all teachers and coordinators of the sites involved to review the draft and gather suggestions about the format, content, and delivery of the questionnaires. The meeting was well attended and resulted in identifying several areas of improvement in the questionnaire.

Comments from the meeting were incorporated into a new draft, and this was circulated among the partners for review. Upon receipt of their feedback, the document was revised again and realigned with the questionnaires of the union/management/supervisors component to ensure adequate coverage of the areas of convergence. The final questionnaire was then hand-delivered to coordinators and teachers at each site, and within one week was administered to all classes at each site.

Teachers were asked to give the questionnaire in the manner they felt would provide the highest quality result, i.e., maximization of comprehension was a priority, and judgment of the learning providers was relied upon to achieve this. Adult learners were prepared for the questionnaire in terms of familiarization with this type of question/answer format prior to the day they completed the instruments.

At four sites teachers chose to read the questions aloud and clarify the meanings at a pace which allowed all the adult learners to fill in their answers, moving through the questionnaire as a class. At CWE, however, the teachers preferred to read the questions to individuals, one-on-one, and the teacher wrote down the adult learners' responses. One class period was allotted for its administration in all cases, and this was adequate time. Classes varied in the amount of time needed for completion (from one-half hour to two hours) because of the wide range in English abilities.

Development and Administration of Interviews

The interview instruments were developed in a manner very similar to that of the questionnaires. Teachers' and coordinators' input from the aforementioned meeting was combined with suggestions and results from last year, and areas of convergence were modified to produce a final interview form.

In order to provide a longitudinal perspective to the study, it was decided that only adult learners who had been interviewed last year at the sites which had been reselected this year would be eligible. One of the eight who had completed interviews at EASCO had moved to North Carolina, leaving a possible seven to be contacted at that site. Of the seven who were interviewed at TJMAXX last year, only five could be reached, since two no longer were in class and did not have working telephone numbers.

The preferred method of initial contact with an interviewee was a face-to-face invitation from a teacher whom the adult learner knew personally, and this was accomplished in most cases. A major layoff had just occurred at EASCO, however, and teachers had quite a task to reach potential participants affected by the resultant shift changes and re-scheduling. Two of the interviewees lost their jobs in the layoff.

At TJMAXX, four former interviewees had stopped coming to class, and one of them had also left the company. To complicate matters, the teachers who had taught those students were no longer employed by the learning provider. The evaluation team and the coordinator felt confidentiality and trust were crucial in locating these two people as well as in eliciting a positive response from them. One of their former teachers was still in contact with the project, and she agreed to telephone these students. She reached two of them at their home telephone numbers, but the other two did not have working telephone numbers. In keeping with last year's procedure, all interviewees were given $10 in appreciation of their time and effort. Interviews averaged one-half hour in length.

One hundred percent of the contacted interviewees agreed to be interviewed again this year. One said, "You don't even have to pay me; I'll be glad to do it." The verbal invitations were followed up by letters to confirm their agreement to participate, assure confidentiality, explain the method of payment (checks were mailed following completion of the interviews to their home addresses), and thank them for their time and effort. One teacher commented on how proud and pleased some of the adult learners were in being reinvited to participate: "He was beaming with pride when I handed him the letter."

Teachers proceeded to contact each interviewee to set up appointments, except in the case of the two reached by phone at TJMAXX; J. Maier of the evaluation team arranged their interviews by calling them at home. The English abilities of the participants were sufficient in all but two cases to eliminate the need for interview translators. Those two people were native Spanish speakers, and J. Maier conducted their interviews in a mixture of English and Spanish. The remaining TJMAXX interviews were done by the coordinator and a teacher.

One teacher/coordinator performed all the interviews at EASCO, and this was achieved only with superhuman effort, as she sustained a back injury the week prior to the appointments. She was determined to complete the interviews, and did so several weeks later when she had sufficiently recovered. Her dedication was an example of the high degree of commitment the learning providers have demonstrated to the project and its evaluation.

The interviews took place over a three week period, and were conducted face-to-face in all but one case. The exception was a person whose shift had been affected by the layoff, and who had to be interviewed over the phone since he could not get to the worksite during regular working hours.

Data Analysis

Questionnaires were coded and the data were entered for aggregate frequencies by question item, as well as for subsets by site, gender, and ethnicity. The interview results were hand-tabulated for their qualitative contribution. Results are presented for the aggregate and each subset in the following section.

Questionnaire Results

The written questionnaire was completed by a total of 148 adult learners at the five selected sites. The total number of surveyed workers, type of class they were enrolled in, and a breakdown of gender and age are listed for each site in Table 1.

Table I

Adult Learner Evaluation Profile

		DEC	CWE	EASCO	TJMAXX	UE
Type of Class	ESL	14	4	0	41	28
	GED	12	7	5	0	0
	ABE	6	4	3	1	0
	ABE/GED	0	0	5	0	0
	ADV. MATH	0	0	14	0	0
	MISSING	1	1	2	0	0
	Totals					
	148	33	16	29	42	28
Gender	58.8% FEMALE	69.7%	81.3%	10.3%	76.2%	57.1%
	39.2% MALE	24.2%	18.8%	89.7%	21.4%	42.9%
Age	66.7% 40 +	76.7%	50.0%	89.7%	27.0%	66.7%

Personal Demographics

- **Gender:** Of the total sample, 58.8% were female, and 39.2% were male.

  Women outnumbered men by a strong margin at four of the five sites. CWE had the highest percentage of women (81.3%); TJMAXX had 76.2%, DEC followed with 69.7%, and UE had 57.1%. EASCO was the only site with a majority of men (89.7%).

- **Age:** More than half of the population surveyed was age 40 or over (61.2%). Only 12.12% were below age 30. The average age overall was 43, with a range from 19 to 66.

  At least two-thirds of the respondents at UE, DEC, and EASCO were age 40 and over. The reverse was true at TJMAXX, where three-fourths of the adult learners were under age 40. At CWE age forty was the midpoint.

- **Place of Birth:** America was listed as the birthplace for about one-fourth of the respondents. Another 21.8% were born in Spanish speaking countries; and slightly over half of these were from Puerto Rico. An additional 14.9% were born in Asia (Cambodia, Laos, Japan, China, and Vietnam) and 14.2% in Portugal.

  Native Canadians composed the next-largest group, with 10% of the total. About 7% were born in Italy, Greece, France, Finland, and Russia. Lebanese and Syrians represent 6.8% of the population. Other nationalities represented in smaller numbers are Indian and Armenian.

  UE was unusual in that no respondents reported having been born in the U.S. Almost one-third were from Portugal, and about one-fifth were from Lebanon. In CWE, over half were from the U.S., and the remainder were from a wide variety of countries.

  Over half of the EASCO group claimed either the U.S. (41.4%) or Canada (10.3%) as their birthplace. EASCO had a large Portuguese population, comprising 44.8% of its respondents. DEC had 42.4% from the U.S., 21% from Canada, and 21% from Asia.

  TJMAXX also had a large Hispanic population with 31% born in Puerto Rico, and a higher percentage of Asians (26.2%) than any other company. Another 11.9% at TJMAXX were born in the Dominican Republic. Like UE, very few were from the U.S. (less than 3%).

- **Rural versus Urban Origins:** Respondents were asked to indicate whether they were born in a city (42.6%) or a village or town (41.2%). Sixteen percent did not respond to this question.

  At UE and DEC the balance between rural and urban was about 50% each. CWE reported a 62.5% urban to 37.5% rural ratio. TJMAXX had more rural than urban, but 29% left it blank at that site. One-third also left this item blank at EASCO, but the balance there was weighted slightly towards urban.

- **Primary Language:** More than twenty different primary languages were listed by the respondents. UE had the most multilingual population, with more than one-third speaking 4 or 5 languages. TJMAXX reported 57.1% Spanish and 14.3% Vietnamese-speaking.

  At EASCO the primary languages were most often English or Portuguese. English or French were the predominant primary languages at DEC, and at CWE it was English.

- **Length of Time in the United States:** Four-fifths of the adult learners have lived here for more than five years, and one-third of them have lived here over ten years. About one-fourth of the adult learners have lived in the U.S. since birth. Under 3% have been here less than six months.

DEC and EASCO have the populations with the greatest longevity in the U.S., as over 90% of their adult learners have lived here more than ten years. About half of the adult learners at UE have lived here more than ten years. At CWE over half were born in the U.S. and another 19% have been here more than ten years.

TJMAXX was unique in being the only company to have adult learners report less than 6 months in the U.S., but this was less than 6% of the group. Nearly half (47.6%) had been in the country more than five years, but none had been here longer than ten years.

- **Race and Ethnicity:** Respondents were asked to categorize themselves by race and ethnicity. There was double reporting in some categories like white and Portuguese. White was the largest at 23% of the total, but Hispanics were nearly the same at 21%. Asians and Portuguese were also almost equal in size, at 15% and 14% respectively. An Armenian population represented 7% of the total, followed closely by the French Canadians at 6%. Blacks were 4%, and others in smaller numbers included Greek, Russian, Indian, and Italian (see Chart B, p. 40).

- **Marital Status:** Nearly 60% of the total sample reported being married, while 21% were divorced or separated. Singles were not far behind at 18.5%.

  Marital status by site reveals a diversity of patterns. UE has over 90% married, by far the highest proportion of any site. EASCO follows with 78.6% married, 14.3% divorced or separated, and 15% single. Nearly half (48.5%) of DEC's respondents were married, and the next largest category was divorced, with 24.2%. Singles at DEC (15.2%) slightly outnumbered those who are separated (12.1%).

  Fewer than half (42.9%) were married at TJMAXX, and 19% were separated or divorced. This is the only site where singles outweighed the divorced/separated group, with 33%. CWE had a unique pattern of less than a third married, less than a third single, and slightly over a third divorced or separated.

- **Family Life:** About three-fourths of the adult learners have children, and 60% of the total have children living at home. Of those reporting children at home, 90% indicated that the number of children at home is three or fewer.

  UE and EASCO have the highest proportions of adult learners with children, at about 90% each. Most of these families still have children at home. About three-quarters of the respondents at CWE and DEC have children, with more than half of them with children at home also. The smallest percentage of respondents with children was at TJMAXX, at 59.5%, and only half of these still had children at home.

- **Home-Ownership:** Approximately equal numbers of respondents own or rent their homes, each of the groups being about 45% of the total. Those who indicated they live in public housing were 3.4%, and the same percent identified themselves as living with a parent or family. A few of the respondents marked both public housing and living with parent or family, so these two categories include some duplication.

  At UE and CWE more than half the adult learners are renters. At TJMAXX about 10% own their homes, while 71.4% rent and 9.5% live in public housing. EASCO and DEC show the reverse, with over three-quarters of their people owning their homes. At EASCO only 11.1% rent, while 27.3% rent at DEC.

- **Level of Education:** About one-fifth of the adult learners dropped out of school before completing the 8th grade. Approximately one-third went on to complete high school or its equivalent. Five students (3.4%) reported having completed their college education.

  Educational levels at TJMAXX were relatively high, as 26.2% attended college. The same percentage completed high school, and fewer than 20% dropped out before 8th grade. UE was at the other extreme, with 42.8% dropping out before 8th grade, 7.1% finishing high school, and 1 person attending college. At DEC, fewer than 6% dropped out before 8th grade, about one-third completed high school and 12% had some college. Nearly 20% dropped out before 8th grade at CWE, and 12.5% completed high school. At EASCO 17.2% left this question blank, making their statistics less reliable. About one-fourth reported completion of high school, and 17.2% dropped out before the 8th grade.

- **Country of Schooling:** The country of schooling tended to correspond with the country of origin, with 27% having attended schools in the U.S., 14.2% in Portugal, 10.8% in Puerto Rico, and 6.8% in Canada.

  The majority of DEC adult learners attended school in the U.S. or Canada. Close to one-third of the DEC group went to schools in Puerto Rico. The other sites were quite mixed in their responses.

- **Previous Class Attended:** Of the total sample, 56.1% reported that they had previously attended an ABE, GED, or ESL class.

  EASCO had the highest number (69%) of returning adult learners, all of whom reported having taken ABE or GED classes. CWE followed with 62.5% returning, two-thirds of whom were in ABE or GED classes. DEC had a return rate of 60.6%, most of whom were in ESL classes. Slightly over half (53.6%) of the UE adult learners had been previously enrolled, and almost all were in ESL classes. TJMAXX had the smallest percentage of returnees (42.9%), and all but one were formerly in ESL classes.

- **Previous Job Training:** Previous job training was reported by 27% of the adult learners.

  DEC had by far the highest positive response to this question, where 63.6% of the group reported previous job training. At all other sites it was reported by a minority. CWE had 37%, followed by TJMAXX with 16.7%, EASCO with 13.8%, and UE with 7.1%. In answer to the type of training received "varied training" was written in by most of the adult learners at DEC and CWE.

- **Length of Time with Current Employer:** In terms of the entire sample, 17.4% had worked for their company one year or less, 50% had worked there five years or less, and 34.7% for ten or more years. The overall average across companies was 8.7 years.

  On a site by site basis, EASCO adult learners had a mean of 21.9 years. DEC was next with an average of 11.4 years, and about one-fourth of them had been there 15 or more years. CWE had a mean of 6.2 years, UE had 3.9 years, and TJMAXX averaged 1.9 years.

- **Current Job:** A total of 76 types of jobs were listed by the adult learners, and only a few of these categories included more than one person. Those with an N=5 or more were assembly (16), machine operator (8), nurse aide (6), and 5 each for housekeeping, ticketing, and electric assembly. Nine adult learners left this category blank. All of the nurse aides and housekeepers were from CWE. All the machine operators were from EASCO, and all ticketers were from TJMAXX.

- **Length of Time in Current Job:** The average length of time in the current position for the overall sample was 4.4 years.

  The highest average time in the current job was 11.6 years for adult learners at EASCO (range of 4 months to 33 years), and the lowest was .99 years at TJMAXX (range of 2 weeks to 5 years). In between were CWE with a mean of 5.5 years (range of 4 months to 13 years), UE with a mean of 3.7 years and a range of 2 months to 11 years, and DEC, whose mean was 3.1 years and a range of 1 month to 8 years.

- **Preferred Job:** Of the total sample, 29.7% left this question blank and 8% wrote in "present job" as their answer. About half of the remainder wrote in the same type of job they had listed as their current job, indicating that either the majority of workers were not looking for a job change or they did not understand the concept of the question. In view of the large number of missing responses it is very difficult to make any conclusions for this question.

Evaluation of the Literacy Class

- **Reasons for Enrolling in Class:** Three major reasons emerged for taking the class: to increase one's use of English, to better oneself in general, and to do better work at the job. Use of English was broken into three subcategories, and the percentages of adult learners marking them are as follows:

  Writing 86.5% Reading 85.8% Speaking 85.8 %

  Eighty percent reported "to better yourself in general," and 70.3% reported "to do better at your job" as major reasons for enrollment.

  Fewer than half the adult learners reported other reasons for taking the class: 41.2% to be able to get a new job, 40.5% to be able to take other classes, 31.8% to improve math skills, 29.1% to be able to help children with school work, 20.9% to earn a diploma, and 13.5% wrote in other reasons.

- **Encouragement and Discouragement To Enroll in the Class:** Supervisors (54.1%), teachers (46.6%), and employers (42.6%) topped the list of those who encouraged adult learners to enroll. Co-workers (35.1%), other friends and relatives (33.8%), classmates (29.7%), children (27.7%), and spouses (27%) were also listed as sources of encouragement. In addition, respondents gave credit to signs, posters, sign-up sheets, and an open house for informing them about the class.

  Few learners were discouraged from enrolling in class. When learners were discouraged, the following were responsible. Co-workers headed this list at a rate of 10%. Supervisors and managers followed at 6.8%, spouses at 1.4% and the remainder (teachers, employers, union representatives, classmates and children) were less than 1%.

- **Barriers to Class Attendance:** Few problems were reported with class attendance. Job pressures were ranked as the number one problem by 6.8% of the respondents. Other reasons, such as time of class, shift interference, being too tired to attend, overtime demands, lack of transportation and family concerns or illness, were each listed by less than 3%.

- **Most Important Class Topics:** Reading, writing, and speaking English were the primary topics of interest to these adult learners (with an average of 86.5% respondents marking these choices). About half the respondents included job training among their priorities, and not far behind were health (48%), math (43.%), American life (43.3%), family and community (39.9%), health and other benefits (39.9%), company policy (29.1%), and union policy (17.6%).

- **Class Impact on Job Performance: Over 80% of the adult learners said that the class was helping them to do better work.** Approximately half the respondents reported an improvement in their ability to understand directions, an increase in their self-confidence, and talking more with their supervisors and with other workers. "Happier at work" was a benefit reported by 45.9% of the respondents. Equal percentages (43.2%) said they could do their job more safely and that they liked their job more as a result of being in class

  Other benefits of class attendance included a perceived improvement in one's chances of being promoted (37.2%), doing better work (31%), and making fewer mistakes at work (29.1%). A decrease in absenteeism trailed the list.

- **Class Impact Outside of Class:** The outstanding impact of the class on adult learners' lives outside the worksite was consistent with the impact on the job: nearly two-thirds reported an improvement in communication in English (written, verbal, and comprehension), and over half reported an increase in self-confidence. Nearly one-fourth found their training useful in helping their children with homework.

  In addition, written in responses included the improvement in their ability to do their own banking, use the telephone, visit various health service providers, go shopping, and to enroll in classes outside the worksite. One person added, "It helped me to use my spare time effectively," and another, "to plan my future solidly." To be able to "go places alone and speak" was another response indicative of the tremendous impact of the class on the daily lives of these adult learners.

- **Workers' Opinions of What Would Help Them Do Better Work:** Nearly two-thirds of the respondents rated more classes to learn English as a means of helping them do better work. **Forty percent stated that more job training would be useful**, and about one-fourth felt that more help from their supervisors would result in better work.

- **Suggestions for Making the Classes More Accessible to Other Workers:** About 18% stated that one-to-one tutors would be helpful, and 12.2 % felt that better classroom space was needed. Other recommendations received 11% or less response, including transportation, class location, and child care. Some notable written suggestions were to include a lunch break with the class, to do more advertising of the class, and to provide more incentives for taking the class (for example, "if company paid us").

- **Recommendation of the Class to Others:**

  More than 85% of the adult learners indicated that they would recommend the class to others.

Ethnographic Differences

The aggregate data was analyzed from an ethnic perspective for the 4 largest ethnic groups: white, Hispanic, Asian, and Portuguese. The white population had the greatest number, with 34 respondents. Second in size were the Hispanics, with 31. Asians and Portuguese were almost equal, with 22 and 21 respectively. Chart A on the following page shows the percentage of the total of all the major ethnic groups in the survey. This section provides a brief sketch of the four largest groups, and then highlights some comparisons among them.

Chart A

ETHNIC COMPOSITION OF ADULT LEARNER SURVEY

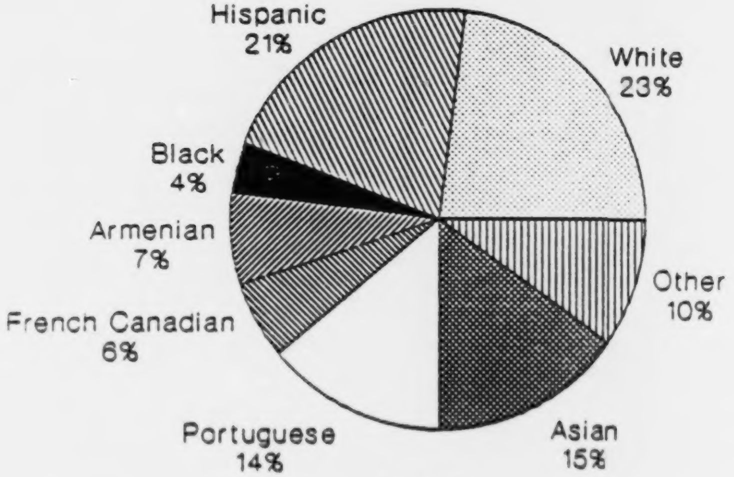

Chart A
Ethnic Composition of Adult Learners

Demographic Sketches

- **White:** The white population was concentrated in 3 worksites. DEC had the highest percentage (41.2%); EASCO had 32.4%, and CWE had 26.5%. Most of them were in either an ABE or GED class. There were equally divided between men and women, and they tended to be 40 and older, married, and homeowners. Almost half had at least a 12th grade education.

- **Hispanic:** TJMAXX had the overwhelming majority of Hispanics (87.1%). CWE and DEC each had 6.5%. Nearly all of them were in ESL classes. Most of this group were women younger than age 40, and about one-third were married. Just over half had lived in the U.S. more than five years. More than half had completed 12th grade.

- **Asian:** The Asian population was primarily divided between TJMAXX (54.5%) and DEC (31.8%). A handful worked at UE and CWE, and none at EASCO. More than 90% of them were enrolled in ESL classes, and less than half of them had taken the class last year. Half of them were married, and women were in the majority. About two-thirds were younger than age 40. Over half were renters, and most of them had been here for more than five years. Almost half had completed at least the 12th grade (47.6%).

- **Portuguese:** EASCO had the highest percentage of Portuguese adult learners, at 57.1%. The remaining 42.9% were all working at UE. About half were in ESL classes. This group was unusual in several categories: men outnumbered women, over 90% were married, and more than three-fourths of them had lived in the U.S. for over ten years. Two-thirds of them were age 40 and above. They tended to be homeowners, and more than two-thirds had an 8th grade or less education; only 5.9% had completed high school.

Class Evaluation

- **Reasons for Taking the Class:** The reasons for taking classes were similar to the aggregate results of the survey: the three most popular reasons were increased use of English, to better oneself in general, and to do better at one's job. However, there were some interesting variations between the groups.

  To "Increase use of English" was the most frequently chosen category for the Asian, Hispanic, and Portuguese (ranging from 85.7% to 100%).

  Understandably, the white group reported other stronger motivations; the one most chosen by them was "to better yourself in general,"(82.4%). Nevertheless, the white group still had relatively high ratings for writing, reading, and speaking English (73.5%, 70.6%, and 67.6% respectively).

  Self-improvement as also quite highly rated by the Hispanics, as 93.5% of them selected this as a major reason for taking the class. The Asian group showed the least interest in this category, with 68.2% marking it. In summary, **more than two-thirds of all four ethnic groups listed self-improvement as a reason for class enrollment.**

  A slightly less popular reason was "to do better at your job." More Portuguese were most interested in this reason, with 81% marking it. Whites represented the lower margin of this category, at 61.8%

  The group most interested in helping children with homework was the Asians, (50%). "To improve math skills" was selected 42.45% of the Portuguese, which is representative of those taking Advanced Math at EASCO. Fifty percent of the whites were also interested in math skills, but the other two groups rated this very low.

- **Encouragement and Discouragement for Enrollment:** Another major area of differences was in the degree and source of encouragement versus discouragement received. Asians reported the most encouragement (90.9%), and the bulk of this was from their supervisors and managers. The supervisor/manager group was most often listed as supportive by Hispanics (64.5%), Asians (63.6%), and Whites (47.1%).

  The least encouragement was reported by the Portuguese (76.2%), and their primary source of it was their employers. The Portuguese were unique in receiving little encouragement from supervisors/managers and much from their employers.

  In keeping with receiving the least encouragement, the Portuguese reported the highest rates of discouragement (33.3%) followed by the Whites (20.6%). The sources of discouragement were most often the co-workers for the Whites (17.6%), and for the Portuguese they were evenly split between the co-workers and the respondents' friends and relatives (19% each). Less than 10% of the Hispanics and Asians had any discouragement to report.

- **Class Impact on the Job:** The Asians and the Hispanics had the highest percentages of respondents who reported that the class changed how they do their work (90.9% and 90.3% respectively). The Portuguese responded with 76.2%, followed by the Whites, at 67.6%.

  The strongest areas of impact across the board were in understanding directions (strong lead by the Hispanics), improved communication with supervisors and co-workers (especially the Asians and Portuguese), and more self-confidence on the job (led by Portuguese and Whites).

  It is noteworthy that the highest percentage reported for job impact of the class across categories and ethnic groups was 77.4% of the Hispanics who reported, "I can understand directions better."

- **Suggestions for Improvement:** Less than 20% of any ethnic group reported problems coming to class, with job pressures being the leading issue.

  When asked, "What would help you to do better work at your job?" the most commonly selected response by all but the whites was "more classes to learn English."

  "More job training" was chosen by half of the Whites, but by fewer than half of the other groups.

- **Class Impact Outside of Work:** There was striking agreement across the ethnic divisions regarding the positive impact of the class on their lives outside of work. The Asians led with a 100% response, followed by the Hispanics at 96.8%, the Portuguese at 85.7%, and the Whites at 85.3%.

  Speaking more English was the most popular category for all but the white groups. The Portuguese reported a strong impact on their reading of English, while spoken English was the greatest area of impact for the Hispanics and Asians.

  An increase in self-confidence was the category of highest impact for the white population. The smallest percentages in this category were among the Asians (40.9%) and the Hispanics (41.9%). Clearly, the class impact outside of work is greatest in communication skills for the Asians, Hispanics, and Portuguese, and in self confidence for the whites.

- **Recommendation of the Class to Others: An overwhelming percentage of the Portuguese (95.25%), Hispanics (93.5%), and Whites (88.2%) would tell others to take the class.**

  The Asians, however, were less likely to recommend the class than the other groups, as only slightly over half (54.5%) of them reported they would recommend the class to others. The Asians' strong support of the classes in every other portion of the questionnaire suggests that there may be a cultural explanation for this incongruity (perhaps there is a cultural resistance to making suggestions of this nature to others, or for some reason the phrasing of the question was not well understood by them).

Where Women's and Men's Responses Differ

Some notable and interesting differences appear when the questionnaire responses are reviewed according to gender. (Women comprised 58.8% of the respondents.) Three major categories emerge where the differences are greatest: demography, support for taking the class, and opinions on class topics.

Demographics

Nearly half of the women in the sample were under the age of 40, while the men were mostly older (80% of the men were over 40). The age of women ranged from 19 to 66, but the men's age range was smaller, from 30 to 64.

About 71% of the men were married compared to half the women, and there were many more single women than men (21.8% women; 12.1% men). Most respondents have children, regardless of gender, but 13% more men than women have children. The number of respondents reporting children living at home also reflects a 14% difference in favor of men.

Educationally, the differences between women and men are small up through high school, with 23% women and 21% of the men completing high school or its equivalent. Women take the lead in post high school learning, however, with 13.8% of them going beyond 12th grade for education compared to 5.2% of the men. Another interesting difference occurs in the area of previous job training. Significantly more women than men had job training (31% women, 19% men).

A major economic difference appears in the area of housing; 55.2% of the men are home owners, compared to 37.9% of the women. Nearly half of the women are renters, while 41.4% of the men rent. None of the men reported living in public housing or with parents or family members, while 11.5% of the women fell into these categories.

Support for Taking Classes

Over 90% of the women reported that they received encouragement to be in the classes compared to 79.3% of the men. Men, on the other hand, were more likely to be discouraged, as 19% of the men reported this compared to 13.8% of the women.

Women were given significantly more encouragement than men by supervisors, classmates, teachers, children, other friends and relatives. Of these, the outstanding difference was by supervisors, as nearly twice the percentage of women as men were encouraged by their supervisors (65.5% women, versus 36.2% men).

Men reported more encouragement in only two categories: employer and union representatives. The difference between percentages of men and women reporting encouragement by employers was less than 10, and by unions was less than 3. (Union differences should be reanalyzed by sorting the companies according to unionization, however, before a more meaningful interpretation can be made.)

Discouragement to be in the classes was negligible (less than 10%) in almost all cases. The exceptions were in the categories of employer (19% of the men reported this as opposed to 13.8% of the women.) and co-workers (12.1% of the men, 9.21% of the women).

Opinions on Class Topics

Women were more responsive in general than men in this area of the questionnaire, as more women than men selected topics in all but two of eleven categories. One might argue that men simply preferred topics that were not listed, but only about 5% of either sex made suggestions of other topics. The two categories selected by more men than women were math (by a 10.9% margin), and company policy (by less than 1% margin).

Communication skills of reading, writing, and speaking top the list of preferred topics for both genders (an average of 93.9% of the women, and 72.8% of the men), and union policy finished last in each list (less than 20% bilaterally), but there are some major differences of opinion in between. For women, the most popular topics below communication skills are health (57.5%), job training (55.2%), family and community (48.3%), and American life (47.1%). Men, however, selected math (50%) and job training (48.3%), as the next topics under communication skills.

The widest margin spreads between the sexes were in the topics of communication skills (26.1%), health (19.6%) and family and community (19%), with women leading men in each case.

Summary of Gender Differences

In summary, women constitute the majority, are younger, have more education beyond high school, and are more likely to be renters than home owners and unmarried than the men. Women received more encouragement (particularly from supervisors), and men received more discouragement to be in classes. Strong majorities of both sexes rated communication skills (reading, writing, and speaking) as important skills to learn in class, but a much higher percentage of women considered these to be important. Job training and health were marked by over 50% of the women, while math was the only other topic marked by men at the 50% level. More women than men received job training, and more women felt it was important to learn.

Voices of the Workers: Interview Results

Who Are the Interviewees?

Fifteen adult learners were interviewed last year at EASCO and TJMAXX. One of these has since moved to North Carolina, and 2 were unreachable by phone at the numbers they listed last year. Of the remaining twelve who were reachable this year, all agreed to do another interview, even though two had been laid off after they completed the questionnaire portion of the evaluation. For the most part they were an enthusiastic group, and some of the teachers reported that there was a sense of pride among these adult learners that their opinion was so greatly valued. The following are profiles of four participants:

A widowed woman of 66, who now rents a room in a convent, completed six years of schooling in her native Colombia, followed by a two-year secretarial training program and 16 years of secretarial employment there. She came to this country less than five years ago, and has been working at one company for the past three years as a packer and hanger. The main reasons she enrolled in the ESL class were to improve her English speaking abilities "for work and shopping," and to better herself in general. According to her the class has helped significantly, "I understand; before, nothing understand."

A 39 year old woman from Laos is a ticketer with a company where she has been employed for the past five years. She came to the U.S. ten years ago, and had never attended any school until she enrolled in the company's ESL class last year. Now she can "read the paperwork and knows what to do," and says that,"in English, I understand the meetings." Although she is married and has five children living at home, she said that the only one who encouraged her to enroll was "myself." She "would like to study more and be able to help people with their problems."

The only interviewee born in the U.S. was a 57 year old man who has been a machine operator for the past 30 years. He owns his home, is married and has four children between the ages of 29 and 35, all still living at home. He had been with his company for 19 years when he enrolled in their program and completed his GED last year, and was in the advanced math class during the evaluation. He reports that the classes have helped him do better work by improving his relationships with co-workers and supervisors and by helping him with gauges. He stated that his opinion of himself has changed "both on and off the job. It gives me confidence to get up and speak." Despite discouragement to attend classes from co-workers and friends, he is quite determined to further his education. He aspires to become an electrician and began taking an evening class to work towards this goal. Although he had to drop the class, he fully intends to return to the local community college and complete this instruction.

A woman who "was forced to go to school" till she completed the 8th grade in her native Portugal was discouraged from enrolling in the ABE/GED class by her husband, but she did enroll and feels very positive about the class. She reported that it helped in her relationships and communication with supervisors, co-workers, and friends, as well as in building her self confidence. "When we have problems we can get help on the telephone," and the class enabled her to be able to talk to the nurse at work. She had been an employee at the same company for 17 years and was in an ABE/GED class when she completed the evaluation questionnaire, but had been laid off just prior to her interview. When asked about her plans for the future, she said that class helped her to be more hopeful, "I'm not afraid to look for something else."

- **Demographics:** The gender balance of the interviewees was the reverse of the questionnaire sample, with 7 of the 12 being men. They provide a good representation of the ethnic diversity of the adult learner population, however. Two identified themselves as from the U.S., two from Canada, 3 from Portugal, 2 from Asia, and 3 from Spanish-speaking countries (Puerto Rico, Dominican Republic, and Colombia). Their primary languages mirror their countries of origin, with only 1 person listing more than two languages spoken (English, Portuguese, and Spanish). Slightly more than half are from rural areas.
- **Marital Status and Family Life:** Two-thirds of the interviewees are homeowners as compared with 45% of the questionnaire sample. Marital status was similar in both populations, with 5/12 of the interviewees married, 1/3 divorced or separated, 2/12 single, and 1 person widowed. Three-fourths reported having children, four-fifths of whom are teen-aged or older (ages range from 7 to 40). Two-thirds of those families still have children living at home.

- **Level of Education:** Educational levels ranged from none (N=1) to post-high school (N=1). Seven of the 12 (58%) completed high school or the equivalent. One quit working last year in order to be able to go to high school full-time (completing 10th grade). Four had an 8th grade or less education.

  Only one respondent reported having any previous job training, and that was a woman who had been trained for forklift driving.

- **Employment:** The range of length of time with company was from less than a year to about 5 years at TJMAXX, while EASCO interviewees ranged from 17 to 23 years with their company. At both companies people reported having their current type of job for much smaller periods of time, as in all but two cases they had had their current position for 3 years or less.

  Two of the EASCO adult learners had been laid off shortly prior to this interview. One of the TJMAXX interviewees had left the company (after attending the class last year only 2 or 3 months) to go to school. Another who still works for the company had stopped coming to class last year, having only had about one month of class time.

Evaluation of the Literacy Class

- **Reasons for Being in the Class:** "To do better at your job" and " to increase use of English" were each listed as a main reason for taking the class by three-quarters of the adult learners. Close behind was "to better yourself in general," with two-thirds of the group marking this as well.

  The fourth reason most often listed was "to increase your self-confidence," which was chosen by 50%. Some personal comments add other insight into major reasons for taking these classes: "It's so important to speak English here, ...not to get laughed at," and "It will come in handy because of the lay-off." (EASCO was in the process of laying off a large number of workers, which directly affected several interviewees.)

- **What Have you Liked about the Class?** "Learning at the workplace" was responded to by all but 1 adult learner as something they like about the class. No other choice got such a high response. The other two categories were "learning from other workers" and "time to practice English." Four people chose all three responses.

  Some other plusses of being in the class were added by 2 respondents: "It's taught right and the teacher is very good with the class," and, "It felt good to be part of a group that shared things."

- **Suggestions for a Better Class:** Adult learners were asked to describe anything they did not like about the class as part of the interview. Seven had nothing to say at this point. The other 5 who responded voiced the following concerns: "too many people talking at once," "the company cut time paid for classes," and "only the room."

  Another said, "We need more time in class. We should not eat lunch during the class. The teacher should not ask people to tell their ages-- one woman stopped coming to class because of that." This person went on to describe in more detail her concerns about the teaching method used in the class. She was very excited about learning grammar and did not like studying other topics like policy issues during class, and she wanted more feedback from the teacher regarding pronunciation.

  The person who was only in class about one month gave his reason for leaving as an answer to this question: "The teacher would give us an assignment, and told us to read the book if we couldn't understand, and I couldn't read."

  Very few responses were given when asked if they would change anything about the class times, size, location, or teaching method, but by this point in the interviews, the adult learners had already voiced their opinions regarding teaching methods. One wanted more hours of class time, and one did not like the location of the class.

- **Effects and Benefits of Being in the Class:**

Opinions of Themselves

One hundred percent of the respondents said that their learning in the class had changed their opinions of themselves. The theme in their answers was one of feeling better about themselves and an increase in self-confidence:

"It changed both on and off the job, ...gives me more confidence to get up and speak."

"I feel better," was given as a response by 3 people.

"Yes, I have more confidence, and I accomplished something I wanted to do a long time ago."

"...makes me feel proud for myself."

How the Class Helps on the Job

More than half the interviewees reported better communication with their co-workers, union and personnel representatives, and a better relationship with their supervisors as a result of the class. "Nurse," and "friends" were added as people with whom communication had improved.

Interviewees were asked if the class has helped them do better work, and if so, to describe how it has helped them. Replies included the following:

"Yes, it helps with the gauges,"

"When we have problems, we can get help on the telephone,"

"(I) put more confidence on the job because I knew I could read better,"

"In English, I understand the meetings,"

"I can understand the directions,"

"Now I can read the paperwork and I know what to do."

Another important aspect of class learning on the job was, "If I see something wrong, I can report it."

One respondent was more focused on the interpersonal skills which facilitate good work, and had this comment: "All I have learned makes me better at my job because I can keep relationship with different people and talk about my culture, and learn about others as well."

Sense of Job Security

When asked about their sense of job security, very few of the adult learners understood the intent of the question. Interviewers tried, but were usually unsuccessful in rewording this question to facilitate comprehension. Only two people gave an answer. An EASCO respondent said, "I don't know because of the company situation," and a person from TJMAXX replied, "I think so because I can speak English now."

How the Class Helps in Life Outside of Work

Three-fourths of the interviewees said, "I have more confidence" as a result of the class on their life outside of work. This category was chosen more than any of the others. The second most frequently chosen responses were in the use of English, with speaking just slightly ahead of writing and reading. About half the group included helping in relationships with friends, and two have used their learning to assist children with their homework.

Other off-the-job uses added by respondents were at the hospital, laundromat, bank, and the consulate (one person had lost her passport), as well as in the home, such as in measuring recipes or reading letters. The same person who enjoys using her new English skills for learning about others' cultures, also shared her joy in using English to help other people. She gave an example of helping a child she found crying on the street.

Respondents were asked to choose which of these applications were the most important for them. "I have more confidence" was selected most often, followed by "I speak more English." Two people each chose "I can read more English," and "I can help my children with school work." The other categories were each chosen by only one person. "I can read the Bible" was of greatest importance to one person.

- **Sources of Support To Be in the Class:** Every interviewee reported receiving encouragement for taking the class. Interestingly, of the categories listed for people providing this encouragement, the most commonly chosen answer (by five people) was "children." One said "everyone," and another added "myself," (which was not an uncommon response in the questionnaire as well).

- **Problems Faced Attending the Class:** More than half of the respondents said that they were not discouraged from taking the class by anyone. One said that this had happened a long time ago, but not now. The most frequent offenders were friends. Three people listed this category saying, "They couldn't understand why I'd want to go to school."

  One each received discouragement from co-workers, a husband, and the company via loss of "paid work timed" at EASCO. Another reported that his supervisor didn't tell him about the class because he would miss a half hour of work if he attended.

  Very few felt they had any problems coming to class (over half had no difficulty). Two reported that being too tired was a problem, and 1 of these said, "only on rare occasions." One had family and transportation difficulties, and 1 restated her desire at this point to have a separate lunch time rather than combining it with class time.

  Another said that sometimes on class days she couldn't complete her shift quota of 2,000 tickets, but that her supervisor was very understanding about this so it was not a problem.

- **Sense of the Future:** Adult learners were asked in what ways the class learning has had an effect of their futures or their plans, and again "more confidence" was chosen more frequently than any other category (75%).

  An increase in feelings of security was reported by over half, but only five said they were more positive or hopeful about work opportunities. Interestingly, four of these were from EASCO where the layoffs were occurring.

  The comments speak for themselves, revealing the sense of empowerment which their learning has elicited:

  "(I can) now go out and get more education."

  "I'm not afraid to look for something else."

  "(It's) easier to step forward and speak."

  "I want to spend more time learning."

  "You can apply for a better job or you can use your English in a hospital."

- **Overall Job Satisfaction and Future Plans:** In this section interviewees were asked to describe the best job they had ever had, their ideal job, and to discuss any interest they had in changing jobs. Similar to last year's results, interviewers found it difficult to phrase these questions so that the interviewees could understand their intent. Many did understand after careful explanation, and their answers follow.

Best Job Ever and Reason Why

Five said that the best job they ever had was the one they currently held; however, they were not able to verbalize reasons. Two others referred to former jobs at other companies, including one of the two who had been recently laid off. This person liked her previous job best because "it involved paper work and I was in charge of my own department." Another person stated the reason she had enjoyed her work most as a secretary in Columbia was "because I didn't need to speak English."

Ideal Job

Because this question elicited the fewest responses last year, some probes were developed for clarification. Despite these efforts, one person was unable to understand this portion. One said, "I never thought about it," because it was a family tradition to work at EASCO. Some of the other responses included the following jobs: teacher (3), computer programmer (2), and social worker, counselor, preacher, and electrician. The one who had quit his job last year in order to finish his high school education on a full-time basis said he would like to become an architect.

When asked if it would be important in their ideal job to belong to a union, 5 said it would be, and the remainder either did not comment or said they had no preference. All of the interviewees had worked in unionized settings.

Most preferred to continue to work in their own area of Massachusetts. One who wanted to be a teacher or counselor said she would work in New York because "there are a lot of people there who need help."

In addition, interviewees were asked to specify what salary they would like to make. Quite a range of responses were given. The lowest was "the same as now." Four gave an annual salary of $30,000 to $40,000, and 2 chose from $80,00 to $90,000. One responded $35-40/hour, and 2 said "$9-10/hour."

When asked if they were interested in changing jobs, half the respondents said they were not. One was actively looking for another job, and 1 said he would like to, but didn't know where or how to apply.

- **Overall Rating of the Class Experience:**

When asked to rate their experience in the class on a scale of 1 (very negative) to 10 (very positive), 90% rated it a 7 or higher.

The overall sentiment of the interviewees toward the program is simply stated in the following quote:

"I am very thankful for the classes and feel that they should have more programs."

Discussion and Conclusions

The data from the adult learner component of the pilot outcome evaluation paints a picture of success for the MWEI. Communication skills in speaking, reading, and writing, self-enhancement in general, and a desire to improve job performance continue to be the primary motivators for enrollment, and participants are consistent in reporting that the classes are meeting their expectations in these areas.

A strong majority of the adult learners find that their learning has affected both their job performance and their lives outside of work. When asked what would help them do better work, nearly two-thirds chose the response of "more English classes." The growth in self confidence which they experience as their English skills increase also allows them to take a more active role in their communities and to develop friendships with English-speaking friends and co-workers.

According to the class participants, barriers to attending class were limited. Less than 10% had any difficulties to report. As a result of previous evaluations, efforts had been made to resolve some of the barriers to program participation, such as lack of daycare and transportation. Despite the fact that few barriers were reported this year, one cannot assume that these barriers are not still significant because the population who does not attend class has not been surveyed. In other words, a preselection bias may be operating. The survey was conducted near the end of the school year, thereby including only those who were able to overcome any major problems coming to class.

It is not possible to determine the extent to which these barriers are preventing workers from enrolling in classes from the existing data. However, enrollment has remained fairly steady at the five sites. An average of 60% of the adult learners chose to re-enroll, and 40% are taking a class for the first time this year. This demonstrates that programs have the ongoing support of their constituents and that they are attracting new enrollees.

There were two important issues which emerged from the interview data in particular which warrant attention: 1.) the relationship between the economic condition of the host company and positive learner outcomes; and 2.) teacher review.

The economic reality which exist for workers in specific plants impacts educational outcomes. Specifically in cases where there was employment reduction, it was difficult (or impossible) for workers to continue participation in their classes. At EASCO, for example, large layoffs resulted in loss of students from class; problems with rescheduling classes to accommodate shift rescheduling; and reduction of paid release time, which caused some workers to quit their classes. Nevertheless, the sense of empowerment which had been engendered by class participation was strong among the interviewees.

Teachers were highly praised by workers. Virtually all of the comments made on the questionnaires regarding teaching methods were very positive toward teachers. The high degree of praise for teachers which surfaced in both the questionnaires and interviews deserves recognition. Teachers are clearly a crucial link in the chain of service provision, as they are in direct, consistent contact with the adult learners. The only criticism disclosed during interviews concerned teaching methods. It seems that, although the teachers were not interviewing their own students, there was a reluctance on the part of the adult learners to share critical feedback with teaching staff. Gathering data on learners' critical suggestions for improving classroom methods and curriculum might require a format different from the one-on-one interview with teaching staff.

This year over 85% of the adult learners said they would recommend the class to others. Their response to the question about what would help them do better work was " more classes to learn English." Their classes were convenient and accessible, met their expectations for learning English communication skills, helped them do better work, and helped build self-confidence, which has far-reaching ramifications both outside of work and on the job. In summary, from the adult learner point of view, the program was a resounding success.

Chart B: Program Demographic Profiles

United Electric Controls Company

The population of adult learners is primarily age 40 and over, with a majority of women. Almost one-third are from Portugal, one-third Armenian, and one-fifth from the mid-East. The population is quite multilingual, with more than one-third of the adult learners speaking four or five languages.

Over 90% are married, and almost all of them have children. About half of the respondents have lived in the U.S. more than 10 years; over half are renters; 14.3% completed only through the 8th grade; 10% completed high school.

City of Worcester Employees

More than 80% of the adult learners here are women, most of whom are between 30 and 50 years old. Over half were born in the U.S., and another 19% have lived here more than 10 years. There is no strong subgroup other than "American," but a mixture of people from Africa, South America, Asia, Europe, and Puerto Rico.

About 40% are divorced or separated, and the remainder are evenly split between being married or single. Three-fourths of them have children, and most of them are living at home. One-fourth of them are home-owners. More than half finished at least an 8th grade education, but only 12.5% completed high school.

Digital Equipment Corporation

About three-fourths of the adult learners are women, and about the same proportion are over 40 years of age. Nearly two-thirds were born in the U.S. or Canada; 18% identify themselves as French Canadians. About one-fifth come from Asia (Japan, China, and Laos). This population has been well established in the U.S. for some time, as 42.2% were born here, and another 48.5% have lived here over ten years.

Slightly under half are married, and over one-third are separated or divorced. Three-fourths of the respondents have children, and most of these families have children still living at home. Almost three-fourths are home-owners. About 15% completed only an 8th grade education, while 44% finished high school. Another 12% went on to pursue post-high school education.

EASCO Handtools Company

This company differed from all the rest in its gender balance with a male majority of 89.7% Only 10% were below age 40, with half the group aged 40 to 49. The largest proportion of this group was born in Portugal (44.8%), and 41.4% were born in the U.S. About 10% are native Canadians. Portuguese is the predominant primary language of the adult learners (37.9%). More than 90% of the respondents have lived in the U.S. over 10 years.

About three-fourths are married, 13.8% are divorced, and 6.9% are single. Almost 90% have children, and about two-thirds of the respondents have children living at home. More than 80% are homeowners, and about 10% are renters. The percentage who completed only an 8th grade education was less than 7, and 24% went on to complete high school. None reported education beyond high school.

TJMAXX

The ratio of women to men is again more than 3.1, but this is a younger population than the other predominantly female companies. Nearly three-fourths of this group is under 40, with the average age being 34. Only one adult learner was born in the U.S. at this company. The larger populations came from Puerto Rico (31%), Southeast Asia (26.2%), and the Dominican Republic (11.9%). Over half the group speaks Spanish, and one-fourth speak a language of Southeast Asia. Almost half have lived in this country for over 5 years, and another 40.5% have been here longer than a year.

About 43% are married, one-third single, and the remainder divorced or separated. Most of them have children (59.5%), but about half the families no longer have children living at home. Less than 10% are home-owners; more than 70% rent, and 9.5% live in public housing. Less than 5% completed only an 8th grade education, and another 53.7% went on to finish high school. About one-fourth of the respondents had post-high school education.

Program Profiles

Introduction

Between September and December 1989, the Stone Center conducted site visits to seven federally funded workplace education programs which are coordinated by the State of Massachusetts Department of Education. The purpose of the site visits was twofold: first, to continue the documentation of the models of workplace education service delivery which are evolving in Massachusetts out of a diverse set of geo-political, economic and educational needs; and second, to provide workplace education program personnel with the opportunity to reflect on the purpose and structure of their programs with the assistance of an outside evaluator.

The site visits included structured interviews with program coordinators, teachers, tutors, union members and leaders, workers enrolled in programs, company managers and supervisors, and others who are closely affiliated with the programs. The site visits also included observation of classes, participation in group meetings (when possible), and review of written materials, including quarterly reports and other correspondence with the State Program Coordinator, minutes from program Advisory Board meetings, recruitment materials, annual reports when available, and other relevant program documentation.

The seven programs are:
1.) The Chinese American Civic Association Workplace Education Program at South Cove Manor Nursing Home, Boston, Massachusetts
2.) The Mount Wachusett Community College Workplace Education Program at Digital Equipment Corporation, Westminster, Massachusetts
3.) The Labor Education Center (Southeastern Massachusetts University) Workplace Education Program at the Chamberlain Manufacturing Corporation, New Bedford, Massachusetts
4.) The Employment Connections, Inc. Workplace Education Program at Spir-it, Inc., Wakefield, Massachusetts
5.) The Center for Lifelong Learning (Quinsigamond Community College) Workplace Education Program at Kennedy Die Castings Inc., Worcester, Massachusetts
6.) The Lawrence Adult Learning Center Workplace Education Program at Friction Materials, Inc., Lawrence, Massachusetts
7.) The American Federation of State, County and Municipal Employees, Local 1776, and the University of Massachusetts (Division of Human Resources) Workplace Education Program at the University of Massachusetts, Amherst, Massachusetts

Despite a four month lag in receiving federal monies at the start of the grant period, which made start-up difficult for most programs (the exceptions are the programs at Digital Equipment Corporation (DEC) where the company covered program costs until federal monies arrived, and at Kennedy Die Castings, Inc., where the Center for Lifelong Learning covered program costs until federal monies arrived), the seven programs described in this report are now fairly well established. They are delivering consistent service and are steadily developing a sophisticated understanding of what they can and cannot accomplish. Even at Friction Materials, Inc., where lay-offs decimated the on-site ESL program, program staff were creative in planning alternative service delivery strategies; and at the Chamberlain Manufacturing Corporation, where the program was still very new, learners and management alike were convinced of the value of their on-site math classes. It is clear that the federally funded programs described in this report have benefited from the learnings of the Massachusetts Workplace Education Initiative over the last three years and that workplace education is moving rapidly from a novel demonstration effort into a respected strategy for coping with the social problems of functional illiteracy and decreased production in American industry and the specific areas where these problems intersect.

As a rule, programs offer instruction at work, partially during work hours, to employees in industries which are changing both their methods of production and their management styles. The Chamberlain Manufacturing Corporation, Spir-it, Inc., Friction Materials, Inc., and Kennedy Die Castings, Inc. are computerizing their production methods and introducing statistical process control procedures, thereby requiring their employees to apply higher levels of English speaking/comprehension and math skills to components of the production process and to working with each other in the production process. Employees at DEC are also being prepared to perform statistical process control, but at DEC and the

University of Massachusetts, the focus is less on new technologies per se, and more on new styles of management and new structures of work which demand greater employee participation in problem-solving and decision making. The University of Massachusetts "Next Steps" program is developing approaches to enhancing employee "empowerment" that may guide the University itself through a change to a more participatory management style. The South Cove Manor program increases employee retention and improves the quality of patient care– a service industry "product"– by providing ESL classes to its nurse's aides and other health care workers.

The majority of this report describes the history, distinguishing characteristics, strengths, problems, organization of service, educational methods, outcomes and recommendations for each of the seven programs. The following comments highlight a set of shared and interrelated concerns regarding the definition of workplace education and the development of worksite specific curricula at the seven sites that are noteworthy at this juncture in the development of workplace education program models in Massachusetts.

Learning providers, workers, union leaders and members and company managers and supervisors are well aware that the American economy is not producing at a rate which sustains healthy growth on the world market. The understanding that jobs, livelihoods, the futures of once successful companies, opportunities for expansion within companies currently showing some profit, and perhaps the future of the American economy are at stake genuinely informs the actions of all members of the program partnerships. When a company like the Chamberlain Manufacturing Corporation loses a contract with the American government for the production of the new American Service revolver to the Italian company, Beretta, who offered high quality at a lower price, many people look up and ask: "How can this happen. Even our own government is shopping out of town!"

The workplace education programs described in this report are designed to address the needs of workers and industries alike to be prepared to participate in full fledged employment/production/competition on the world market. Consequently, **learning providers are actively engaged in the process of developing curricula that are worksite specific within a basic skills framework.** There is general agreement among all the partners that a premature and/or imbalanced focus on worksite specific curricula undermines the long-term success of workplace education. There is general agreement that:

1.) An instrumental short-term focus on work specific curricula should not overshadow the long-term need for workers to learn skills which will be transferrable to the even newer technologies bound to arrive in a few years time either in their current workplaces or in others.
2.) For some workers with limited basic skills, instruction in basic English and math must precede the application of those principles to worksite related learnings. ("You have to learn to crawl before you walk," said one manager.)
3.) The inclusion of learner-driven, life skills oriented curriculum empowers the learner and enhances the learning process for worksite specific tasks. Cultural awareness training, for example, thus becomes a well-justified component of an overall work specific approach to developing workplace education curricula.
4.) Basic skills workplace education programs function as a bridge to training programs where workers further refine their work specific skills.

This approach reaches for congruence between the worker centered, participatory management model which is emerging in most of the companies represented in this study and the process of their workplace education programs. If a supervisor is becoming "more like a coach or counselor", a teacher cannot dictate curriculum and run a successful program. The process of education must mirror the participatory process of management and vice-versa. Adult educators who are accustomed to teaching in community based programs are well-schooled in participatory process and have much to share with managers and supervisors.

Program staff, union and company representatives and learners uniformly expressed concern that federal reviewers approved their original proposals, which included components like cultural awareness training and the development of a workplace education resource center, and then later judged these to be out of compliance with federal regulations which specify the development of worksite specific curricula.

The following program profiles are like snapshots taken on the day of the site visit. We acknowledge that some programs may have changed significantly in the time between the site visit and the publication of this report, but it is beyond the scope of this evaluation to document those changes. The dates of the site visits are recorded at the end of each profile.

The Chinese American Civic Association Workplace Education Program at South Cove Manor Nursing Home, Boston, Massachusetts

I. Program Summary

History of the Program

The South Cove Manor Nursing Home is a private, non-profit nursing home located on the outskirts of Chinatown in the city of Boston. Members of the Chinese American community worked for over ten years to make the dream of a long-term care facility for elderly Chinese a reality and take pride in the fact that it is one of only three nursing homes in the nation oriented to the social, dietary and medical needs of the elderly Chinese community. South Cove Manor is now in its fourth year of operation and approximately seventy percent of the residents are Chinese. Other residents represent different ethnic groups located throughout Boston including Haitian, Italian, Hispanic, and Polish. The facility has a total of one hundred beds which at this time adequately meets the demand for them.

There are several economic and social factors which heighten the need for ESL and ABE services within the nursing home setting. As the general population ages, nursing homes increase in number, requiring more licensed and unlicensed staff to work in them. At the same time, the nation and the State of Massachusetts are facing a nursing shortage; and the demographics of people likely to find employment in entry level nursing home jobs are also changing. They are likely to be recent immigrants to the United States and non-English speaking. Furthermore, in the nursing home industry, which is a service providing industry, quality of patient care is a priority. Patient care can be compromised if interactions between staff and residents and between staff and staff are characterized by mistrust born of miscommunication or if directions for medical procedures or dosage for medication are misunderstood or mis-read. If a patient is injured in some way, he or she cannot be reproduced like an electronic part in a small manufacturing company.

Like other nursing homes throughout the State of Massachusetts, South Cove Manor faces problems with recruitment of licensed staff-- especially R.N.'s, and with retention of unlicensed staff. But these problems are compounded by the bilingual needs of the agency. In order to provide quality care to its residents, the agency needs nurses who are bilingual in Chinese and English. They are in especially short supply. Furthermore, residents speak either Cantonese or Mandarin Chinese, a circumstance which requires nursing staff to speak/comprehend Cantonese and Mandarin or rely on interpreters. (The difference between Cantonese and Mandarin is so great that they are virtually two separate languages.) The agency also needs unlicensed staff to work in the dietary and laundry departments and to work as nurses' aides, who can speak English well enough to both take directions in English from English speaking supervisory staff and interact with English speaking residents. Entry level workers are primarily but not exclusively Chinese. Some are Haitian and speak French Creole.

The original purposes of the ESL program therefore included:

1.) Creating an environment of acceptance of English as a common language within the bicultural setting;
2.) Creating a work environment where education is valued and made available in the service of quality patient care;
3.) Helping nurses' aides who are Chinese speaking work toward licensure as L.P.N.'s and R.N.'s, thereby increasing the pool of licensed, bilingual nurses in the long-term;
4.) Increasing the written and oral English language skills of unlicensed staff, thereby reducing dependence on translators and interpreters; and
5.) Creating an opportunity for underemployed staff to develop English language skills and move up the career ladder at South Cove Manor if possible, or elsewhere.

As the South Cove Manor ESL program approaches its first anniversary, it is in a good position to reflect on whether its original purposes have been fulfilled. The program enjoys enormous success with the workers; it has the support of supervisory staff and upper-level management because, among other things, they witness increased communication in English; and teaching staff are both pleased with and continuing to refine a comprehensive, work-specific competency based curriculum. The program has in fact succeeded in beginning to create a greater acceptance of English as a common language within a bicultural setting.

However, the program has had to reevaluate its goal to help nurses' aides work toward licensure as R.N.'s and L.P.N.'s for two reasons. First, Federal and State regulations and restrictions on licensure make licensure in the short-term impossible for nurses' aides at South Cove Manor. Second, in general, nurses' aides at South Cove Manor begin with low levels of English language skills and it is unrealistic to expect them to increase their proficiency enough to be licensed within the planned one year program period. It is realistic, however, to expect the ESL program to help nurses' aides work toward certification under the new Federal and State guidelines for certification of nurses' aides. These guidelines were issued after the South Cove Manor ESL program was planned but adapting the program to help fulfill them is not difficult.

South Cove Manor is managed by Cushman Management Associates, a professional management company specializing in nursing homes. Cushman Management, and the nursing home itself, together with the Chinese American Civic Association who is the learning provider, form the partnership for this model ESL workplace education program.

Distinguishing Characteristics

There are many factors which distinguish the South Cove ESL program. They include the following:

- The teaching/coordinator staff is very experienced in developing curriculum and in using a variety of teaching methods to convey that curriculum. Furthermore, the teaching staff is well supervised and supported by the learning provider agency, the Chinese American Civic Association.

- More than 90% of South Cove Manor staff are women. And more than 85% of the employees enrolled in the ESL program are women. One of the two teachers is male. The teachers are sensitive to the ways in which gender composition affects class dynamics, including seating patterns, pairing of employees in classroom exercises, and discussion of topics like prosthetics.

- About 15% of the students are medical professionals from mainland China, including gynecologists, dermatologists, dentists, and labor coaches who cannot practice medicine in the U.S. because they are not licensed to do so.

- Three students are elected to the ESL program Advisory Board and are full participants at the monthly Advisory Board meetings.

- South Cove Manor is a bicultural nursing home located in the Chinese community. There is, therefore, a necessary mesh between what is defined as a workplace specific concern in the curriculum and what can also be understood as a bicultural concern. For example, some Chinese employees are reluctant to ask a supervisor for clarification.of a direction or task out of respect for the supervisor's position of authority. When the supervisor is English speaking, however, and the employee is Chinese with limited English skills, it is important for the employee to feel comfortable asking for clarification. Thus, a class session might be spent on the form of the question: "what is...?" The class encourages students to practice a new social form-- i.e. asking for clarification-- at the same time that it teaches a phrase without which it would be impossible to speak English well.

- The ESL program has attracted new staff to South Cove Manor who are not only continuing to work at the home but who are also recruiting family members and friends to work there as well. South Cove Manor describes the ESL program as a benefit when advertising for staff.

- According to the terms of its grant proposal, during the first six months of operation, the South Cove Manor ESL program actively recruited students from other health care agencies in the neighborhood. The success of this recruitment strategy is evident in the numbers of employees served to date-- a total of 93 as compared to the projected 60. ("Served" here means attending classes for two consecutive weeks.) The mix of employees from other agencies did not apparently compromise the quality of service or class dynamics. People from outside the agency were initially recruited for the "medical terminology" class. This class was offered once. Other outside agency people were admitted to the ESL classes if they expressed the desire to work in a long-term care facility, namely South Cove Manor. Thus, the ESL program functioned as an employee recruitment tool. Because the program enjoys such popularity, word-of-mouth recruitment by the employees themselves has replaced any effort by the ESL staff to attract workers from other agencies. With the help of the ESL program, South Cove Manor has developed a reputation as a good place to work and has solved part of its employee recruitment/retention problem.

Program Strengths

- The South Cove Manor ESL Program enjoys the full support of supervisors and upper-level management.

- The on-site Program Coordinator is highly skilled and experienced in developing work-specific competency-based curricula.

- The ESL staff conduct a comprehensive, ongoing formative evaluation which systematically feeds new information about program needs and solutions back to the teaching staff and to the Advisory Board. Some of the procedures in the formative evaluation include:

  1.) Worker feedback sessions at the end of each class;
  2.) ESL staff weekly meetings with management;
  3.) Pre/post "observation" conferences where one teacher asks another to sit in on a class and observe a specific method/concern, or where a translator is asked to sit in on a class to track what the workers are saying in Chinese, and then have a focused discussion on the findings;
  4.) "Mentor coaching", where the Chinese American Civic Association Workplace Skills Training Coordinator is available for feedback;
  5.) Teacher consultation/counseling which means that teachers are always available to workers before class for consultation;
  6.) A coffee and donuts party for the residents at the end of each cycle to solicit input about the program; and
  7.) Monthly and biannual reports on program goals/operations to the Chinese American Civic Association.

Problems/Concerns

- The South Cove Manor ESL program cannot provide release time with pay for employees. While this does not present a problem with recruitment, enrollment or attendance, there is some feeling that paid release time would enhance employee participation. Lack of paid release time appears to be the one irritant in an otherwise smooth partnership.

- The mix of highly educated and barely literate employees in the ESL class creates a special challenge for the teachers. Workers who are literate in their own language tend to learn a new language more quickly and their style of learning is different from those who are learning language formally for the first time. The teachers are experienced and meet the challenge of this mixed grouping very well. If there were an opportunity to expand the program, however, the teachers might further refine the class groups.

II. Program Design and Implementation

Program Organization

- Partnership: "We all want the same thing" is a phrase used by an upper-level manager to describe what some feel is the reason for the effective partnership within the ESL program. The South Cove Manor Board of Directors and management agreed on the need for an ESL program and sought out the services of the Chinese American Civic Association to help with fund raising and program development. The learning provider has never been in the position to have to persuade the agency of the value of the program, as happens in workplace education programs located elsewhere. Representatives of Cushman Management, supervisors, teachers, and student representatives therefore meet each month to work together to refine the design and delivery of services. The Vice-President for Patient Care Services from Cushman Management chairs the Advisory Board meetings and actively solicits feedback from all participants in the meeting. Students' enthusiasm for the ESL program and their willingness to attend classes on their own time are also critical factors in effective partnership at South Cove Manor. Without these, management's efforts could not be so fruitful.

- Coordination: Coordination takes place on two levels:
  1.) There is an on-site Coordinator who is responsible for daily program implementation. The on-site Coordinator acts as a conduit for program related complaints and requests from all involved parties. His system for collecting information on the process and outcomes of the program is detailed and involves all levels of management, staff and residents. (See Formative Evaluation in Strengths above.)
  2.) There is also a Workplace Skills Training Coordinator at the Chinese American Civic Association who keeps the on-site Coordinator tied to a larger discourse about what works in workplace education. This system of dual coordination appears to keep all channels of information and communication open and works exceptionally well in this nursing home setting.

- Barriers/Incentives to Employee Participation: Lack of paid release time is not a barrier to employee participation in the ESL program; but paid release time is not available as an incentive. The ESL program is viewed by many staff as a real benefit, however. "You can get a job and get an education, too."

- Expansion/Innovation of Services: Several aspects of the program at South Cove Manor reflect an innovation in ESL service delivery:
  1.) A series of monthly Employment and Development workshops are attended by management, supervisors and students alike. These workshops are popular and the topics progress in sequence with the ESL curriculum.
  2.) ESL classes are open to employees from other health care agencies in the neighborhood.
  3.) As a result of the ESL program and in order to enhance its presence in the agency, a senior administrator initiated biweekly Thursday evening dinners when employees are invited to sit at a table in the dining room where only English is spoken. The ESL on-site Coordinator usually attends but the dinner is not a formal part of the ESL program; employees attend on their own time. The administrator posts the topic for the dinner two days ahead of time so people will know what to expect in general conversation. For example, the topic for dinner conversation one evening was "How Family is Different in the U.S. and China."

Education Component

- Schedule of Classes/Enrollment: There are four classes in the South Cove Manor ESL program. They each meet for a total of four hours a week. Classes are organized in four twelve week cycles, although it takes twenty four weeks to complete a full curriculum. The four classes are:
  1.) Level 1-Basic Literacy, which meets three times a week (rather than twice) in order to provide maximum opportunity for repetition and English language usage. Hours are 10:30-11:50 a.m. T. W. Th.;
  2.) Level 1-Beginner's, which meets from 3:15-5:15 p.m. T. and Th.;
  3.) Level 2-Low Intermediate, which meets from 3:15-5:15 p.m. Wed. and Fri.; and
  4.) Levels 3-4 Advanced, which meets from 3:15-5:15 p.m. T. and Th.

  Cycle 4 has just begun. There are 41 students currently enrolled. The program has enrolled a total of 104 students and has "served" 93. Sixteen of the students in Cycle 4 started in Cycle 1.

- Recruitment and Assessment of Employees: Workers were recruited for cycles 1 and 2 with notices in the South Cove Manor newsletter and notices placed in paychecks. Recruitment now takes place through word-of-mouth. Program staff also recruited students in neighboring health care facilities. Employees are assessed with the Basic English Skills Training Test (BEST) developed for use with refugees.

- Curriculum and Methods: The on-site Coordinator has developed a competency based curriculum to meet the work-specific needs of staff at South Cove Manor. Competencies are translated into performance objectives. These performance objectives are one way to assess the progress of employees through the curriculum. Teachers employ a variety of methods in the classroom to provide many opportunities for the practice and use of English. These methods include role playing and simulating a work situation. Both the curriculum and methods in this program are highly developed and have much to teach ESL staff in other settings.

- Student-Worker Evaluation: The BEST is used again at the end of a cycle to measure general proficiency in areas not necessarily addressed in the curriculum. Achieving the performance objectives derived from the competency based curriculum is the chief measure of student-worker achievement in the South Cove Manor ESL program. In addition, there are employee's self evaluations, biweekly meetings with supervisors and descriptive evaluations by teachers of students' proficiency, attendance, participation and attainment of competencies.

- Selecting and Training Teachers: The teachers are hired by the Chinese American Civic Association and maintain close ties with the administration there. Teachers take part in regular staff development groups and also take advantage of training in workplace education made available through agencies like the Adult Literacy Resource Institute and through the State of Massachusetts Workplace Education Program Teacher Training Sessions. South Cove Manor/Chinese American Civic Association teaching staff are active players in workplace ESL.

Outcomes

- ESL program staff conducted two evaluations of the ESL program with licensed staff. Supervisors, mostly charge nurses who tend to be American, either Black or white, responded very positively about the effects of the ESL program. They said that they notice improvement in job performance; there is less use of interpreters; and miscommunication is less likely to occur because staff will ask for repetition or clarification of instructions when necessary.

- Management offered some interesting suggestions about where to look for the cost benefit of an ESL program in the nursing home setting and then applied the criteria to South Cove Manor. Recruitment and retention of staff is one major area of cost containment. If staff remain employed over a period of time, training costs are reduced as are the costs for hiring daily workers who must be highly supervised to fill in for absentees. Since May not one hour of substitute staff time has been required as compared to an average of 80 hours per week before the ESL program became well established. Management directly credits the ESL program with this savings. Supplies are a second and important area of cost containment. When staff can read packaging, directions, and dosages correctly, supplies are not wasted.

- There is general agreement that the ESL program has improved the work environment through valuing the learning process. Employees are more self confident, speak up more freely, are less dependent on translators and interpreters, and have therefore improved the quality of patient care.

III. Needs/Recommendations/Complaints

- The State of Massachusetts, with support from the federal Department of Education, should convene a meeting for industry leaders to discuss various ways of measuring the dollar impact of a workplace education program. The meeting should not be restricted to representatives of the nursing home industry but should include representatives of all industries which host ESL/workplace education programs. Ideas from various industries may spark imaginative thinking for all participants.

Site Visit Conducted October 5, 1989

The Mount Wachusett Community College Workplace Education Program at Digital Equipment Corporation, Westminster, Massachusetts

I. Program Summary

History of the Program

Mount Wachusett Community College (MWCC) is the learning provider for a comprehensive basic skills program at the Digital Equipment Corporation (DEC), Westminster plant. MWCC conducts many community oriented grant programs in the north-central region of Massachusetts and has particular interest and experience in providing ABE and GED services. It was therefore understandable that DEC join in partnership with MWCC to develop an on-site basic skills program for its employees.

DEC is a major world-wide designer, manufacturer and distributor of computer technologies (both hardware and software). Since its founding in 1958, DEC management has been committed to the continuing education of its employees, fully aware that "keeping up with the field" is critical to success in a high-tech industry. In general, however, until four years ago at the Westminster plant, ongoing education was considered more a sideline or benevolence, rather than central to optimal performance by all workers. (And possibly seen as more central for management than for production workers.) Four years ago DEC/Westminster was rated the "worst plant in DEC" and this prompted a dramatic re-appraisal of the need to fully integrate educational programs with new production needs. DEC's philosophy of "continuous improvement" would be translated into specific educational programs for all employees.

This same time period also marked the change of the Westminster plant from a Software Distribution Center to a Software Supply Business. This means that DEC/Westminster is no longer just a distribution center. It now designs, manufactures and distributes computer software world-wide. The company goal is to provide the best software available on the market. Toward this end, the Westminster plant established seven core principles which govern work and relationships. They are worth listing here because of the insight they give into the "fit" between the MWCC basic skills program and its host company. The core principles are:

- We all exist to support the core work-- there is no reason for a job to exist except to support the core work-- if our job does not support the core work, we have no job.
- Our question should always be "is it right for the business?" not "is it right for my function?" If it is not right for the business, it is not right.
- Status in the organization is based on contribution not on organizational levels.
- Individuals' contributions are limited only by the level of capability and commitment they bring to the job.
- The team is the vehicle for achieving business success-- there can be no success for an individual or function outside the team.
- We solve problems so they stay solved.
- In all our endeavors we are conscious of our purpose; we respect our customers, competitors, suppliers and co-workers; and we conduct ourselves with the highest ethical standards (From a DEC/Westminster pamphlet).

Fourteen hundred people are employed in the Westminster plant. According to DEC policy, each of these employees is entitled to spend 20% of his or her work time in an educational program. The Training and Development Department, until four years ago under Personnel and now under Plant Management, offers a variety of educational programs. One "track" of these programs is called Foundations and the MWCC basic skills program is part of Foundations.

The name of this track suggests an understanding that some employees need instruction in the basics, or the foundations of learning, before moving on to other programs; but many workers even lacked the basic skills necessary to take advantage of the courses and seminars offered through Foundations. It is estimated that about 200 workers-- almost 15% of the total 1,400-- need basic skills instruction. Training and Development was not equipped to design and implement a basic skills component. So it contracted with an expert provider to create such a program. The program has the difficult honor of being simultaneously accountable to the principles of "DEC culture" as they are described above (without enjoying the full privileges of DEC employment, like easy access to supervisors on the floor) and to the philosophy and regulations which govern MWCC, without having an established presence on that campus.

The way DEC products are designed and manufactured is changing rapidly-- and it is this change that drives much of the need for basic skills training. Floppy discs and magnetic tape are giving way to compact discs and other electronic methods of recording and printing data. DEC customers are very interested in these new electronic technologies because they are in the end cost saving and efficient. This customer demand underpins the changes in design and production of new products. As one manager put it: "There is a 'business opportunity' in giving clients (new ways to manipulate data) electronically." And DEC is trying to exploit that opportunity. This change is taking place in the context of overall financial losses for the company and reduction of the workforce. Consequently, there is an urgency felt by managers and production workers alike to institute the new changes which might help to insure the continued success of the company as quickly as possible. Implementing Just In Time (JIT), an aspect of statistical process control; working as a team; and being able to problem solve with a view to future production needs are three new skills demanded of workers.

More specifically the new demands on workers include:

- To implement "Just In Time" (JIT). JIT means that an item is built and shipped to meet a specific order and not taken out of inventory. This requires workers to always be thinking about and experimenting with more efficient ways to get the parts that are needed to their "customers" in the department next door for quick assembly. It also means that they are responsible for performing quality control over their own piece of work.

- To be able to participate in a team based approach to solving problems (in order to design, make, assemble parts "just in time"). Fifty-five percent of the workforce currently works with the team model; the target is to involve 70% of the workers with the team model. In practical terms this means that workers must know how to:
  1.) conceptualize solutions to problems (alone and with others), and not depend on the solutions offered by engineers or other experts;
  2.) orally present ideas; and
  3.) write memos.

- To think creatively about what the future (of the company, your workstation, your life) might look like. At DEC creative thinking about what the future might look like is called "visioning" and this skill is considered to be a vital part of both worker participation in team problem-solving or independent work. (How can the task be performed differently/better?) There is a course which is given regularly called "Be an Everyday Genius" which trains workers in the process of "visioning". Workers find it very difficult to participate in this course unless their basic skills are sharp.

- To take a course in Statistical Methods for Improving Performance (SMIP). The company wants all employees to take a training course in SMIP. The basic skills program is looking at the math skills workers need in order to take the course and will then offer a pre-SMIP math course.

The basic skills program runs for 40 hours per week. It offers 6 different classes along with the option for one-to-one instruction. The courses are basic, intermediate and advanced ESL; basic, intermediate and advanced Language Arts (which includes ABE, pre-GED and GED students); and basic business math, business-related math and GED math. There are 2 teachers, 2 teacher's aides, and 12 tutors. The program targeted 100 students and had difficulty recruiting at the beginning. The original grant did not set aside time for development of work-specific curricula and it has been difficult to conduct classes and develop new materials simultaneously. Tight security also prevented basic skills program staff from gaining access to supervisors in production as easily or as quickly as needed. And attrition left work stations occasionally short-handed, making supervisors reluctant to release workers for class.

Despite these problems, it would be difficult to find a more enthusiastic group of workers who uniformly praise the teachers for guiding them over the barrier of their embarrassment and insecurities and into the pleasures of learning. As enrollment increases it becomes clear that the successes of the workers who enrolled early are encouraging others to enroll. And it is also clear from the perspective of management that, under the guidance of the well trained basic skills staff, the pilot program has successfully identified the levels of need for basic skills instruction; met the need with multi-level instruction; and integrated this instruction with company production needs.

Distinguishing Characteristics

- The DEC basic skills programs meets the needs of a broad spectrum of workers (ESL, ABE language arts and math; and GED) and prepares workers to take advantage of other training programs which DEC either requires or makes available for general worker benefit.
- The program conducts classes every day virtually all day (including tutor time) and is thus well integrated into overall company life.
- The availability of individualized instruction distinguishes the DEC program. While the philosophy of individualized education generally guides adult education programs, the DEC program is structured to provide one-on-one services to workers who are too shy or unready to participate in a class. Workers in need of ABE at a fairly low level especially qualify for the one-on-one instruction.
- The availability of tutors who are drawn from the DEC workforce and trained by Literacy Volunteers of Massachusetts makes individualized tutorials/instruction possible. There are now 12 tutors who are enthusiastic about their work (one man has three tutees). Some of the tutors feel that they and the students are pioneers in how to establish a tutorial relationship. (This relationship is not pre-defined like a supervisor/worker relationship on an assumption of one having power over the other.) In addition ESL tutors describe the benefit they gain when they learn about someone else's culture. They are aware of how important this is in a workforce which is increasingly mixed racially and ethnically.
- The Program Coordinator now works closely with the Quality Control Manager and other supervisors to integrate specific workplace needs into the curriculum. She works with the Quality Control Manager in particular to examine the math/statistical needs of the company and then to develop appropriate math courses.
- The basic skills program held a one day Open House in June to educate managers, supervisors, and workers about the program and to recruit students. Workers enrolled in the program prepared food for everyone, spoke during morning presentations, and were available in the afternoon to answer questions and distribute materials. About 100 people attended and this boosted enrollment noticeably.

Program Strengths

- The DEC basic skills program is well integrated with worker and company needs and has demonstrated to the Training and Development Department how a basic skills program can be conducted successfully.
- The program has a strong Coordinator willing to explore different paths of program development. She had to exercise a lot of patience with slow enrollment, but she had confidence that a good program would eventually advertise itself and draw the more reticent workers out, even if it took six months.
- The Coordinator arranged to set aside funds for focused development of workplace specific curricula during the summer and has proposed a plan to hire a part-time curriculum development specialist.
- The development of the DEC-specific pre-SMIP math course is a strength of the program, demonstrating the relationship between basic skills and other higher level required instruction.
- The use of tutors from the workforce is also a strength, actively creating a culture of education at the workplace.

Problems/Concerns

- Recruitment of students was a major problem so the program was slow to build toward its targeted enrollment of 100 workers. Workers were embarrassed to admit their need, especially ABE students. (It is easier for workers to admit they need help with math than with reading and writing. So math can be a hook into other parts of the basic skills program.) Workers also did not know what to expect from a new program. As word spreads about how good and supportive the teachers are, enrollment increases.

- Recruitment was also adversely affected by the limited access the Coordinator had to supervisors. Because she is not a DEC employee, she was (and is) subject to strict security which limits her access to the production floor. It took time for her to meet a key supervisor or two who then introduced her to others and who together both publicized the program and helped the Coordinator to make the workplace/curriculum links.

- As a company DEC performs different functions: designing, manufacturing and distributing software. This means that there are a lot of people employed doing many different kinds of work and all must be accommodated by a workplace specific curriculum. In addition, there is a lot of training of workers across different workstations. This means that workers need to learn the varied vocabulary and math functions associated with different workstations While the program is developing curricula to meet the needs of a company with diverse functions and which trains workers for more than one workstation, this variety of needs puts strain on curriculum development efforts and on what students can assimilate.

- There is occasionally a conflict between short-term production goals and long-term educational goals. While supervisors are generally supportive of education, it is their job to keep production goals primary. With recent cutbacks, DEC is hiring a limited number of contract workers to fill-in for workers at class, and there are times when supervisors (especially the more conservative ones) keep workers out of class. Workers are also aware that going to class when a workstation is short-handed puts a strain on co-workers. In this case, making the decision to go to class is not easy unless co-workers are 100% supportive of education.

II. Program Design and Implementation

Program Organization

- Partnership: The DEC basic skills program has an Advisory Board which meets once every two months. The Program Coordinator, the DEC "liaison" to the basic skills program (who is also a Program Manager in Training and Development), the DEC Personnel Director, the MWCC grants managers, and two workers who are enrolled in the program are board members. The board typically meets to address a particular issue, like recruitment; it does not appear to function as an open forum for candid discussion of broad concerns.

- Coordination: Overall program coordination is ably performed by the Program Coordinator. There are three levels of coordination required in this program. The first is coordination of direct services including classes and tutorials and supervision of teaching staff. The second is coordination with host institutional representatives, i.e. DEC supervisors, management and DEC "liaison". The third is coordination with the mother institution, MWCC. Coordination with supervisors has improved significantly in recent months.

- Barriers/Incentives to Worker Participation: Barriers to worker participation include workers' reluctance to publicly admit they need remedial language instruction; the Coordinator's limited access to supervisors on the production floor; and the occasional conflict between fulfilling one's responsibilities at the workstation versus attending class. Incentives include qualification for other classes and for compensation programs. A generous compensation program which DEC made available to workers on a one time basis (in lieu of simply firing them) offered two years of paid tuition with living expenses at Greenfield Community College in preparation for finding work elsewhere. Seventy-six people applied for the program; 13 qualified. Some of the people currently enrolled in the basic skills program hope to qualify if the offer is made again.

- Expansion/Innovation of Services: The availability of one-on-one instruction with regular teaching staff; use of tutors; development of the pre-SMIP math course; and the organization of the day long Open House all represent some expansion and innovation of services in the DEC program.

Education Component

- Schedule of Classes/Enrollment: Enrollment in the program is open. As of October 25, a total of 72 students had enrolled in the basic skills program. Twenty were enrolled in ESL. A few of these were highly educated non-production line workers. Federal representatives questioned whether this was appropriate because their focus is providing services to production line workers. From the DEC perspective, even highly educated workers need to be able to speak English. Four workers were enrolled in individual ABE classes; 40 in pre-GED and 9 in GED. The focus is on long-term employees (of the 58 workers enrolled by September 30, 17 had been employed between 5 and 10 years; 21 between 11 and 15 years; 11 between 16 and 20 years; and 1 for over 21 years. Only 8 were employed between 1 and 5 years.) The majority are white women over forty.

  With a 3 month program extension recently granted to the program, the program is likely to reach its projected enrollment of 100 students.

- Recruitment and Assessment of Workers: Recruitment of workers was a problem because workers were reluctant to admit they needed services and because the Program Coordinator had limited access to supervisors who could have helped her advertise the program. The Open House in June helped to spread the word about the program. And now the quality of the program is being advertised word-of-mouth.

  The grant stipulated that the DEC basic skills program would use the TABE as an assessment tool, as does MWCC for its other programs. Program staff find the TABE practically meaningless because it does not accurately measure total student accomplishment. If the curriculum is workplace specific-- as it is in the DEC basic skills program, and more so as the program develops-- then the assessment must assess what is being taught. In addition to the TABE, program staff interview workers before enrolling them in the program.

- Classroom Site: The classroom is located in the Training and Development Department. The room is divided into two-- to create two spaces which each accommodate not more than ten students at a time. The effect is cozy and crowded.

- Curriculum and Methods: Side by Side and other standard ABE/ESL materials were the core of the curriculum until staff began to develop workplace specific materials. Much progress has been made with developing workplace specific curricula, especially in math and vocabulary, although the difficulties of developing workplace specific curricula for a multi-function company which trains workers to operate at several workstations remain. (See Problems/Concerns above.) Instructional methods are varied but are all employed to build trust within the student groups.

- Student Evaluation: The clear preference of the teachers is to informally monitor student progress in small groups. However, teachers also acknowledge that students occasionally want to be tested because it makes them feel that they are progressing. In those cases teachers develop tests for the students.

- Selecting and Training of Teachers: In addition to the full-time Coordinator, there are two teachers and two aides in the DEC program. Teachers and aides are hired by MWCC. Only the Program Coordinator meets with MWCC administrators once a month. Time is scheduled so tightly that the Coordinator does not meet with her staff as a group, but she stays in close (daily) communication with them, and they stay in close communication with each other.

Outcomes

- Teachers, workers, supervisors and managers agree that workers are:
  - –asking more questions;
  - –helping each other more to problem-solve;
  - –demonstrating greater self-confidence;
  - --making suggestions;
  - –participating more in team projects;
  - –writing better memos;
  - –understand the continuum of services which they can take advantage of;
  - –inspiring other workers to enroll (in one department initial enrollment of 7-8 people doubled in a 10 month period because the results were so visible to everyone).
- Other outcomes include:
  - –decreased scrap; and
  - –fewer rejects.

One supervisor made the point that workers were not necessarily any more satisfied with their jobs because the jobs themselves were not challenging. But workers feel better about themselves in relation to their jobs-- and that makes a difference to them and how they do their work.

Workers typically praise their teachers and their program when queried by the evaluator during a site visit. But there was something especially enthusiastic about the comments of the workers at DEC. The comments focused significantly on developing confidence in their capacity to learn and the rewards of participating in a program with teachers who never make you feel stupid for not knowing something. This suggests that it might be more difficult for workers who need basic skills training to work in an environment which openly promotes education but where that education is always out of reach, than for workers in a workplace where no one but upper-level management gets education perks. Prior to the establishment of the basic skills program at DEC, workers with limited basic skills suffered silently the notion that they didn't have what it takes to learn because they couldn't qualify for the most basic classes offered. The basic skills program restored a sense that it is possible to learn alongside of more skilled co-workers.

III. Needs/Recommendations/Complaints

- Expand access of the Coordinator to supervisors on the production floor. One assumes that after a year of delivering services and demonstrating her integrity in any number of ways, the basic skills Program Coordinator should no longer be viewed as a security risk. Rather, her access to supervisors should be viewed as an asset to a program which is producing decidedly good outcomes.

- Develop a State WEP newsletter to keep all personnel informed of developments and news.

Site Visit Conducted October 25, 1989

The Labor Education Center
Workplace Education Program
at Chamberlain Manufacturing Corporation,
New Bedford, Massachusetts

I. Program Summary

History of the Program

The workplace education program at Chamberlain Manufacturing Corporation is coordinated by the Arnold M. Dubin Labor Education Center (LEC) at Southeastern Massachusetts University (SMU). Under the terms of its federal workplace education grant, the LEC coordinates workplace education programs at Chamberlain and other companies and for specific unions. Other companies and unions include Aberdeen Manufacturing Company, the United Auto Workers (UAW), the Amalgamated Clothing and Textile Workers Union (ACTWU), and the International Ladies Garment Workers Union (ILGWU). This profile will look broadly at the history and goals of the LEC workplace education enterprise and will focus on the particular program at the Chamberlain Manufacturing Corporation.

The LEC

The LEC was established in 1975 to meet the educational needs of workers as members and leaders in the labor movement and as active and responsible citizens in the community. The LEC has been providing workplace education services mainly to the needle trades through the Massachusetts Workplace Education Initiative (MWEI) since 1986. It was clear to the LEC at that time that developing and implementing workplace education programs was a necessary part of their overall mission to help people become union leaders as well as to help workers cope with dramatic changes in the local job economy.

LEC staff noted that workers with limited basic skills were not able to take advantage of standard LEC programs. Workers needed a bridge to the programs typically offered by the LEC; and workplace ESL, ABE and GED programs would provide workers with that bridge. It was also clear that workplace education programs were desperately needed in southeastern Massachusetts, a region hard hit by the general economic shift in the Commonwealth from a manufacturing to a service base. In the last five years, 5,000 jobs in the area have been lost and, as of mid-November 1989, the Carroll Cable Company was preparing to lay off an additional 350 workers. ESL and ABE programs at the workplace could at least help workers who might lose their jobs to become skilled enough to find work elsewhere. Furthermore, the New Bedford/Fall River areas are largely Portuguese speaking areas. It is possible to function independently and work in those communities without speaking fluent English. Supervisors in many of the companies, especially the needle trades, speak Portuguese, as do merchants, bankers, etc. As the economic crisis forces people to find work outside their native area, the need for good English language skills increases dramatically.

Under the leadership of the local Program Coordinator, the LEC workplace education program in New Bedford became known among the MWEI programs as a model program. It even won an award of recognition from the MWEI. It was therefore expected that the continuation and expansion of the LEC workplace education program through federal monies would proceed without problems. In fact, the program began haltingly, changed its focus significantly and has only recently begun (as of early autumn 1989) to live up to its promise.

There are several factors which help to explain the problems the LEC experienced in starting up its federally sponsored programs:

First, the scope of the proposed program was broad. It targeted 250 students for a combined state and federally funded program to serve several different companies. This combined state and federally funded program was initially approved and then prohibited by the federal funders after the award was made. If the leadership had been continuous from the grant writing stage through program development, it is likely that, given prior performance, the program would have been established as best as possible, within the new federal guidelines. But several key players, including the Program Coordinator, left the project in September. Although the project was slated to begin in October, a lag in the distribution of federal funds kept the project from hiring a new coordinator until February 1989. Thus the project was without a coordinator for roughly five months. In that five months, some continuity of purpose and planning with the proposed partner companies was lost-- in particular, the focus of need for ESL instruction with workers in the needle trades.

Second, it was not as easy as it appeared to temporarily fund companies with State monies (during the lag) and then turn them over to federal monies subject to federal guidelines. Workers at Calvin Clothing and Cliftex, Plant A , for example, wanted a more general ESL curriculum than would have been approved by the federal guidelines. State guidelines permitted greater flexibility, and it made sense therefore to maintain these programs under State auspices. This limited the pool of textile companies interested in developing workplace education programs with federal monies.

Third, although the federal granting agency had approved the establishment of a regional resource center to train and support adult education teachers interested and involved in workplace education as part of the proposed LEC program, program personnel were informed during the lag period that essential components of the resource center plan, like renting space for the center, were out of compliance with federal regulations. This required program staff to scale down their goals for the resource center and to re-think the focus of their proposal. To muddy the waters a little more, the notification of change in the resource center plan was made before the State Coordinator was hired. Thus, LEC program staff managed these substantial changes with intelligent advice from State representatives acting as coordinators but without the constant monitoring that the State Coordinator currently provides.

As a result, LEC staff reduced the number of students to be served to 99; changed the focus from the needle trades to any interested and needy company in the area; and, with the help of some donated space from SMU, proceeded with Bristol Community College to organize a few teacher trainings on a regional basis. The budget was reduced accordingly.

As of mid-November 1989, the LEC was coordinating the following programs:

1.) Aberdeen Manufacturing Company, a manufacturer of textiles, hosts a program which meets twice per week, two hours per class, after work from 4:00 p.m. to 6:00 p.m. Two classes run concurrently. There is no release time. The curriculum is standard ABE/GED and teaches to the GED. The class began in September, 1989 after the heat of summer passed and workers could attend classes comfortably. The lack of air-conditioning made it impossible to conduct classes in summer.

2.) Union Classes:

a.) The ILGWU hosts a program twice a week in its Fall River hall. Classes meet for a total of six hours on Mondays and Wednesdays from 5:30 p.m. to 8:30 p.m. Two ABE/GED classes run concurrently. These classes draw ILGWU members from Aberdeen and the Fabrican Company. Members of ACTWU from Calvin Clothing, the Cliftex Corporation and the Santoro Company also attend this class. The class began during the summer and is ongoing. Note that this is an example of two unions sharing educational resources in one union hall.

b.) The UAW Local 1113 hosts classes in its New Bedford hall on Tuesdays and Thursdays from 6:00 p.m. to 8:00 p.m. The workers in this class are all from Chamberlain and all need ESL instruction. The class focuses on work issues because of general concern about future lay-offs. (Chamberlain had a massive lay-off in the summer and then hired many people back. Some workers are just waiting for the ax to fall again.) Questions like "How do I find a new job?" and "What is work like in other companies?" inform the curriculum. This is the only ESL program conducted by the LEC under its federal grant. There are 13 workers enrolled in this program.

3.) The Chamberlain Manufacturing Corporation is the site for the LEC's third program. This program is a partnership between the company, the UAW Local 1113 and the LEC. The program is described in detail below.

4.) The resource center component has developed steadily on a small scale. In concert with Bristol Community College, the LEC has conducted two successful regional teacher training days and plans four more for the late fall/winter. The teacher trainer/materials developer also co-teaches with/advises teachers in regular LEC workplace education classes and develops materials which are made available to LEC teachers and to other teachers within the region. The LEC coordinates a total of six classes; the total number of students enrolled in all programs is 66.

Chamberlain Manufacturing Corporation

The Chamberlain Manufacturing Company, a munitions manufacturing company located in New Bedford which employs 750 workers, is facing challenges typical of small companies in the Commonwealth. The introduction of new, computerized machine technologies, coupled with increasing demands by customers (the federal government is the company's major buyer) for quality control and for keeping pace with rapid change in product specification, force the realization that workers generally lack the skills needed to adapt to these changes. Even in the munitions business, "foreign markets are killing us." The federal government, like other consumers, looks for the best product at the lowest price. This means, for example, that a large contract for producing a 9 millimeter revolver to replace the old American Service revolver, a 45, for the U.S. army was recently awarded to the Italian firm, Beretta. The new Industrial Relations Manager at Chamberlain is well aware of these problems and of how a carefully tailored educational program can begin to meet the company's production needs.

After a lay-off of approximately 250 workers at Chamberlain in the early summer, the Worker Assistance Center contacted the LEC to explore the possibility for beginning a workplace education program at Chamberlain. Union members from Chamberlain had informed the Worker Assistance Center of the need for such a program. The union and company had a working idea of the kind of educational program they needed and were-- and are-- able to work with LEC staff to create it. From its experience with other educational programs, the company knows that the "we want it now" approach does not work and that workers need to be encouraged to learn over time in a supportive environment. As of mid-November there were ten vacant numerical control machine operator jobs available at Chamberlain. Company management wants to be able to hire from within and the union wants to see its members retained. Thus both the union and management mutually support the on site math component of the educational program and applaud its potential to save jobs. (It seems that initial union skepticism about the management backed program has diminished considerably.) Similarly, both management and union support the off-site ESL program. (See above UAW Classes for further description of this component.)

The on-site program at Chamberlain is all math. It is targeted at this point to second shift workers whose skills fall short of qualifying them as numerical control machine operators (although workers from the first or third shifts can also enroll). Twelve students are enrolled. These workers need basic math instruction as well as instruction in blue-print reading and the use of micrometers and other measuring devices. After the completion of the 13 week cycle, it is hoped that these students will be motivated as well as qualified to study the numerical control machine operator lesson plans which are on videotape and available for home and work-site use. There is little illusion about how one 13 week class for 12 workers will answer the company's long-term production/competition problems. But there is a refreshingly realistic three-part goal to "instill excitement about learning, develop basic skills, and go on to other learning programs." It is clear that the current program is seen as a pilot program that can and should be refined for subsequent cycles.

Distinguishing Characteristics

- The LEC workplace education enterprise warrants special attention because of its commitment to the interests of labor and its focus on the needs of workers. The LEC coordinates programs only when there is union participation or sanction. This focus is not typical of learning providers in the federal program cohort.
  - --The union at Chamberlain played a critical role in establishing the workplace education program through their discussion of working conditions and workplace education needs with the Worker Assistance Center staff. The Worker Assistance Center staff then contacted the LEC about the potential for conducting classes and continued to work with union members on a survey of educational needs.
- --Holding classes in union halls for members who work in different companies distinguishes the LEC program. This is a model which unions in other parts of the Commonwealth could follow.

- The division of the Chamberlain program into an on-site (math) and off-site (ESL) component, the former with release time, the latter without release time, distinguishes the program. While company representatives and program staff did not describe the reasons for the division in this way, it appears that the company is willing to contribute company time and space to those workers who have the immediate potential to increase their math skills and apply for the numerical control machine operators jobs. While the company also supports the off-site component-- knowing that future lay-offs may force mainly Portuguese speaking workers to find work elsewhere, and wanting to help its employees make the transition-- it is the union who lends its name and space to the off-site ESL component. Potentially, UAW members from other companies can take advantage of ESL classes conducted at the union hall.

- The exclusive focus on math in the Chamberlain on-site program makes that program unique. The development of a curriculum that includes not only basic math but blue print reading and the use of micrometers and other measuring devices addresses a specific need at Chamberlain to re-train and retain workers; and this curriculum can also be adapted by other companies within the state and federal program cohorts who have already demonstrated a need for it (United Electric Control Company, EASCO Hand Tools, Friction Materials). Thus the design of the particular program at Chamberlain serves a real curriculum development need in companies throughout the Commonwealth. Staff note that when using a math curriculum, some mastery comes very quickly -- even for limited English speakers. Self-confidence therefore also arises quickly. Math students, unlike ESL students, are not always judging themselves against their own competency with their native language. The math curriculum at Chamberlain was developed in concert with the Massachusetts Department of Education, Bureau of Adult Education, Math Team.

- The teacher trainer/materials developer-- the staff person who represents the scaled-down version of the resource center-- has a background in ESL for refugees. Much of refugee ESL is work-oriented, preparing refugees to find work as quickly as possible once they reach the United States. This body of knowledge on work-oriented ESL with refugees has great potential to inform curriculum and methods in worker-oriented ESL.

Program Strengths

- Company management has both short-term and long-term goals and does not expect miracles from a 13 week cycle of math instruction. The 50% release time policy policy for the on-site component demonstrates to workers the commitment the company has to re-training and retaining them.

- The union's fundamental understanding of the potential of the program to save jobs-- and its consequent support of the program-- strengthens the program considerably.

- The math teacher willingly accepts the creative challenge to develop a curriculum which goes well beyond basic math. She works with a company engineer to understand company design and production processes. She also consults a friend who is a vocational educator for ideas on how to translate design and production processes into a comprehensive curriculum.

- The increasing commitment of SMU to support workplace education at the LEC will contribute significantly to the strength of the program over time. The new Dean of Continuing Education has written two books on ESL and is very interested in the work of the center.

Problems/Concerns

- The loss of key staff, late hiring of new staff, subsequent loss of continuity with the purpose of the original grant, the mandate to cut back dramatically on the development of a regional resource center and late start up due to a lag in funding all contributed significantly to the problems the LEC program suffered in its first year.

- The lack of structure for developing and maintaining partnerships either with the needle trades companies named in the original grant or with the current companies and unions is a major concern for the LEC programs. (See Partnership below.)

- The Chamberlain program did not begin until October 1989, beyond the date for submission for a continuation proposal. As a result, the new proposal which the LEC submitted to the federal funding agency through the State DOE names another company as the recipient of services in the next fiscal year. Fortunately, Chamberlain management may be committed enough to workplace education to continue the program at its own expense. Nonetheless, it is important to note how the vagaries of the funding cycle can potentially undermine the purpose of its own mandate-- to establish strong and ongoing programs.

- The rigid federal guidelines concerning workplace-specific curriculum (compared to more flexible State of Massachusetts guidelines) cause problems in classes where workers want a life skills focus as well. In the UAW class which serves ESL students from Chamberlain and which meets at night after work with no release time, workers are not satisfied with solely workplace-specific curriculum. As one teacher put it, "The last thing they want to hear about after work is more work." At the same time, workers understand that the goal of the class is to help them prepare for a potential lay-off by learning to speak English, how to find employment elsewhere, how to get additional training, etc. Must the curriculum be "workplace-specific" in order to accomplish these goals?

II. Program Design and Implementation

Program Organization

- Partnership: Although staff agree that the principle of partnership is central to an effective workplace education program, there is very little in the LEC program that translates that principle into action. The LEC has its own advisory board but none of the programs has its own. Staff cited the diffusion of the overall program (different companies, different unions, different sites) as the major block to forging strong partnerships and to developing the necessary mechanisms to maintain strong partnerships. Staff therefore tend to work one-on-one with company managers or union representatives and not to focus on the mechanics of partnership *per se*.

  This lack of attention to partnership may just be another result of the general confusion resulting from change of staff, program scope and budget at the beginning of the funding period. But at ten months into the grant, lack of attention to systematically forging and maintaining partnerships can only undermine a program that has struggled to gain its footing this year. A number of options are open to the LEC staff. [For example, create advisory boards on a single union or company basis (UAW has its board; Aberdeen has its board, etc.); or on a joint union or company basis (UAW, ILGWU, ACTWU have a joint board; Chamberlain, Aberdeen, etc. have joint board); or join unions and companies together on one board.] The consequences of each design need to be thought out. But it is important to note that there is precedent within the federal program cohort for joint boards (See Kennedy Die Castings Program Profile). Initial feelings among different company or union representatives that their agendas are too different to make a joint advisory board possible might not be born out if strong leadership is demonstrated by the Program Coordinator.

  Given the pivotal role that the Worker Assistance Center played in creating the Chamberlain program, some thought might be given to including that organization on an advisory board. There is no advisory board for the Chamberlain program.

- Coordination: There is one Program Coordinator charged to oversee all the programs. Without an advisory board system in place, too much depends on the ability of the Coordinator to maintain contact with an assortment of players from different companies. The Coordinator maintains close and regular contact with the Chamberlain Industrial Relations Manager and with UAW leadership there.

- Barriers/Incentives to Worker Participation: Fifty percent release time plus the hope of keeping their jobs motivates workers to participate in the Chamberlain on-site math program. Preparing for future lay-offs motivates workers to participate in the off-site ESL program.

- Expansion/Innovation of Services: The math curriculum and the on-site/off-site model are the major innovations in the Chamberlain program.

Education Component

- Schedule of Class/Enrollment: There are twelve workers enrolled in the math program conducted on-site at Chamberlain. The class meets on Mondays and Thursdays for two hours from 2:30 p.m. to 4:30 p.m. The class runs on a 13 week cycle. (For information on the UAW off-site Chamberlain component and other LEC programs see above, Program Summary.)

- Recruitment and Assessment of Workers: After getting support from the union leadership, the Program Coordinator approached company management to recruit students for both the ESL and math classes. Workers were notified of classes through flyers posted on the walls, and in person by the Program Coordinator and union representatives at a "recruitment table" set up at the front door at shift breaks.

  The TABE is used for assessing math skills. The in-house ESL assessment developed by the former Program Coordinator is used for the ESL students.

- Curriculum and Methods: One math teacher is responsible for creating a curriculum which incorporates basic math, blue-print reading, use of a micrometer and other job-specific measuring devices. She uses a vocational math curriculum as the basis of her lesson plans. She is part of the State's working group on ABE math and she works with a vocational educator and a company engineer to develop a curriculum specific to the needs of the Chamberlain Manufacturing Company. Her method is "math taught concretely", i.e. math taught with objects that can be seen and touched. Actual dies, molds and blueprints are used in the classroom.

  The teacher's method is to teach "transferrable principles" not simply rote tasks suited to one company's needs at the present time. "What I want is for students to get an understanding of math relating to a factory setting whether they stay here or not-- to take it anywhere, to grow in that way, that's success."

- Classroom Site: The classroom is a large and comfortable conference room.

- Student Evaluation: The math teacher has thus far used tests which come with the vocational curriculum. She sees improvement using these tests and is now ready to construct her own tests based on the work-specific topics she has introduced into the class.

- Selecting and Training of Teachers: The Program Coordinator meets every week with all the teachers for one and a half to two hours. The teacher trainer/materials developer sits in on workplace education classes and advises teachers as needed. In addition, four teachers attend the State's ABE math group.

  Teachers are paid $15.00 per hour and are paid one hour of prep time for every two hours of class time. They are also paid for attending meetings and training.

Outcomes

It was generally agreed that although the program at Chamberlain is in its pilot stage, it is still creating significant results. One manager said, "It's crawling before walking. I don't want to say that everyone is in an educational dither. But ask me next year!" It is the hope of the program that workers will qualify for in-house promotion or at least find employment elsewhere that is satisfying on the basis of attending class at Chamberlain.

- The specific outcomes which were observed at this time include:
  --a visible desire to learn and excitement about learning; and
  --increase in self-confidence, job satisfaction and cooperation among workers.

- The kinds of productivity measures which management will look for include:
  --quota of products per person;
  --amount of good parts;
  --amount of scrap ("If you can keep scrap to a zero, you're a hero", said one manager. If you are better prepared to deal with the machines, you will make less scrap.); and
  --ability to perform SPC (Inspection will now be done by the individual operator of the machine, not by inspectors. This means that the worker must be sophisticated enough in math to perform this function.).

III. Needs/Recommendations/Complaints

- Focus on developing mechanisms for partnership development and maintenance.
- Work with federal funding agents to expand the definition of workplace-specific curriculum.
- Bring together management and union leaders so that they can discuss their opinions of what makes workplace education work, innovations in program design (like incentive programs), failures, and successes.

Site Visit Conducted November 16, 1989

The Employment Connection, Inc.
Workplace Education Program
at Spir-it, Inc., Wakefield, Massachusetts

I. Program Summary

History of the Program

Employment Connections, Inc. (ECI), located in Chelsea, is the learning provider for a small, well integrated workplace ESL program at Spir-it, Inc., a manufacturer of plastics located in Wakefield. ECI and Spir-it were well known to each other before the start of their program. (The Spir-it Personnel Manager had even volunteered at ECI some years ago.) Spir-it management was becoming increasingly aware of its need to provide basic skills training to its employees and therefore easily welcomed ECI's offer to create a partnership to provide on-site classes for workers. ECI's mission is to help people improve their employment opportunities through a variety of job training programs. Providing workplace education classes, therefore, falls well within their mission. There is no union at Spir-it.

Spir-it is a 35 year old company which produces plastic stir-sticks, straws, picks, spears and food markers. It is the sole manufacturer of plastic coffee stirrers for MacDonald's world-wide, and the production of this one item accounts for 20% of Spir-it's entire operation. With current annual sales of eight and a half million dollars, they have cornered 60-65% of the market share, selling to clients like KLM Royal Dutch Airlines, Hilton Hotels and casinos in Las Vegas. Recently purchased from the original owner by an investment group (with economy stabilizing restrictions, like the firm must stay located in Wakefield), the company hopes to grow over the next two years to annual sales of fifteen million dollars.

Management's plan to almost double sales in the very near future coupled with the need to automate/computerize production to meet changing customer needs underscore the need for on-site instruction to workers whose basic skills and English speaking skills are limited. For example, MacDonald's will soon require all coffee stirrers to be individually bagged in cellophane. At the present time only stirrers used outside the United States are bagged; those used domestically are not. (Cutting down on waste and promoting hygiene apparently prompt MacDonald's to undertake this change.) The machines at Spir-it which currently bag the stirrers cannot keep up with the additional numbers of stirrers which will need to be bagged. Engineers have been working on a design for new computerized machines which will require operators to apply basic math both in order to run the machines and to perform quality control functions on them. Throughout the plant there is a need for workers to: 1.) speak enough English to understand and read directions; 2.) understand their machines well enough to stop production when the machines break down; and 3.) develop the confidence to call a supervisor to ask for help with solving problems, and to fix the problems themselves when possible.

Management is committed to retaining Spir-it's current workforce. It has guaranteed jobs to all employees during their upcoming automation/expansion phase, but employees will need to be retrained and relocated to new workstations. Management would like to promote workers from within rather than keep them stuck in the lowest paying jobs the company has to offer and be forced to hire from without to fill the new jobs-- especially when the pool of skilled labor is so small. Training on-site is in fact the most realistic option.

In a small company, all workers play an important role in maintaining production quotas. The need to have all workers speak English well enough to understand the directions for running sophisticated equipment currently drives the program. Management is aware of the limits of translation to meet the new production needs.

The Personnel Director estimates that approximately 20 out of 125 employees could benefit from ESL classes at the present time. (Eight are currently enrolled.) Workers in need of ESL instruction are mostly Hispanic; a few are Cambodian or Vietnamese. The employee population is somewhat transient and the need for ESL could increase significantly. (In 1987, 50% of the workers were Cambodian.) The workplace education program will soon turn its attention to delivering math instruction, as proposed in its grant. It appears that it placed too great a demand on all parties to start a new program that would simultaneously address ESL and math needs. But the success of the ESL class rooted the idea and the reality of workplace education at Spir-it firmly enough to now permit planning for the math component. (Late start-up of the program due to a lag in receiving federal funds and the difficulty in hiring an instructor/coordinator may also have contributed to the need to proceed slowly. See Problems/Concerns below.)

The Spir-it program is in its second twelve-week cycle. The first cycle ran from May 22 to August 10. The second cycle ran from August 28 to November 16. A mini-session will be run from November 27 to December 22, 1989 and hopefully the program will be extended to run a third cycle from January 2 to March 23, 1990. There was a total of 9 students in the first cycle, 7 women and 2 men. For the second cycle, two of the women dropped out for reasons related to transportation and daycare and one new woman joined, bringing the new enrollment to a total of 8, 6 women and 2 men. Classes meet from 1:00 p.m. to 2:45 p.m. on Mondays and Tuesdays. (See Distinguishing Characteristics below.) There is no paid release time, although management is willing to consider it.

The Instructor/Coordinator of the Spir-it program divides his time between Spir-it and another small manufacturing company where ECI also provides on-site classes. The regular presence of the Instructor/Coordinator, the small size of the company and class, and management's support of the program make it relatively easy for the workplace education program to be integrated into the rhythm of this factory's life.

Distinguishing Characteristics

- The Instructor/Coordinator is a one man curriculum developer, teacher and coordinator. Although he is supervised by ECI staff, the structure of his job requires that he spend much of his time on-site. Because the program and his job functions are so compact and because he works so closely with the Personnel Manager, the effect is like having a teacher as part of the Spir-it, Inc. "team". The Instructor/Coordinator functions like a Training and Development Department of one.

- The Instructor/Coordinator together with the Personnel Manager have produced an instructional videotape which describes production processes in different work areas of the plant, safety issues, and quality control procedures. The Spir-it tape is one of the first local workplace education program examples of the effective use of video as an instructional aid.

- The Instructor/Coordinator has also produced a set of audio cassettes of class lessons which students can use at home on their own time. The tapes can supplement a class a student attended or be used by a student who was absent from class and wants to make up the lost instruction.

- The Instructor/Coordinator in concert with management has designed a program with significant variation among its parts. Although the regular class cycles are targeted at second-shift workers and run for twelve weeks with four hours of instruction per week, the Spir-it program will pilot a "mini-course" in November-December 1989 targeted to third-shift workers. Classes will be held from 7:00 a.m. to 9:00 a.m. perhaps as intensively as four times per week for a three-week period. (Afternoon classes will be scaled back to meeting once per week during this period.)

  The mini-course will give third-shift workers a taste of learning without having to make a 12-week commitment. If the mini-course is successful, the Instructor/Coordinator might schedule a regular class in the morning The mini-course is one way to both hook workers on learning and institutionalize the educational program in the company. In addition to the mini-course, the Instructor/Coordinator meets with a group of 4 workers on Mondays from 3:15 p.m. to 4:15 p.m. This group is slightly more advanced than the second-shift class and functions more like a study group. Different forms of classes responding to the different needs and interest levels of the workers distinguish the Spir-it program.

Program Strengths

- The Instructor Coordinator is capable of performing three different roles: curriculum developer, teacher, and coordinator and demonstrates additional flexibility in designing different kinds of classes to meet the different needs of workers.

- Spir-it management is willing to consider sponsoring classes with other companies in order to promote the idea of workplace education and create more options for its own employees. The costs of such a program would be shared by the participating companies.

- Supervisors generally understand the need for workplace education programs and are willing to reinforce English language instruction on the shop floor.

Problems/Concerns

- It is difficult to reinforce speaking English outside of class despite the supervisors' best intentions and efforts.

- The Personnel Manager estimates that about 20 of the 125 people employed at Spir-it could benefit from participating in an ESL class. With 8 currently enrolled, approximately 12 people are in need of instruction but are not asking for it. The company is not interested in forcing participation, and will continue to leave it up to individual workers to enroll or not. Coordinating transportation and daycare are two significant barriers to participation. Program staff have not surveyed employees to see how many are kept from attending class on account of transportation or daycare issues, but the observation was that "[daycare and transportation problems] affect every female in the class." (Classes are 80% female.)

- The late start-up of the program was a concern which diminished with the receipt of federal funds in early 1989 and the hiring of the Instructor/Coordinator in April. The first candidate withdrew in January. ECI then had to look long and hard for an adult educator who was qualified for the job and willing to be hired on a nine month contract. They interviewed many candidates who were unwilling to take a risk with a potentially short-term job. (It was not clear at that time that the federal government would allow an extension of the grant for three months.)

- The capacity of the Instructor/Coordinator to perform different functions and run a one-man Training and Development Department strengthens the program considerably, but at the same time, he is employed by ECI and subject to the rules and procedures which govern ECI instructional staff. No serious problems have resulted from this structure of divided loyalties in which the Coordinator is required to perform, but it is worth noting that this is an example of "partnership" needing to be defined and cultivated. No matter how well integrated into life at Spir-it the Instructor/Coordinator is, and how willing he is to develop a specialized program, he is not on Spir-it's payroll. One could also argue that this kind of workplace education program design is too dependent on a one-man effort. If this Instructor/Coordinator were to leave abruptly, it would be difficult, if not impossible, to replace him.

II. Program Design and Implementation

Program Organization

- Partnership: The partnership between ECI and Spir-it works well. There is a five person Advisory Board which meets every 45 days or so. The board includes the Instructor/Coordinator, the ECI ESL Coordinator, two Spir-it Supervisors and the Spir-it Personnel Manager. Although there is considerable informal exchange of information between advisory board meetings, advisory board members value their meetings as an opportunity to formally catch everyone up on business to date.

- Coordination: The Instructor/Coordinator performs a coordinating role in two ways: 1.) within Spir-it, consulting frequently with the Personnel Manager and acting as a liaison between workers, supervisors and management; and 2.) with his superiors at ECI.

- Barriers/Incentives to Worker Participation: Daycare and transportation problems were cited as the most significant barriers to participation. Incentives to participation include the fact that workers want to keep their jobs and qualify for work on the new machines even if it means investing some of their own time in training. Parents also want to be able to help their children with their homework in English and generally make their children's lives in a bilingual world as easy as possible. Opinions about the value of paid release time as incentive are mixed. Management might consider whether paid release time will answer problems with daycare and transportation that keep potential students out of class.

- Expansion/Innovation of Services: The instructional video tape and audio cassettes of classes are an important innovation in workplace education aids.

Education Component

- Schedule of Class/Enrollment: The Spir-it program is in its second twelve-week cycle. (See History above for description of other cycles.) There was a total of 9 students in the first cycle, 7 women and 2 men. For the second cycle, two of the women dropped out for reasons related to transportation and daycare and one new woman joined, bringing the new enrollment to a total of 8, 6 women and 2 men. The target population was Hispanic and Cambodian workers. Now there are more Hispanic than Asian workers, but the percentage of workers in need of ESL dropped--from 40% to 20% between the time the grant was written and implemented. Only one student is not literate in her own language. Two are functionally illiterate in their own languages.

  Regular classes meet from 1:00 p.m. to 2:45 p.m. on Mondays and Tuesdays. (See Distinguishing Characteristics above for description of mini-course and Monday study group.) Management is willing to consider paid release time in the future.

- Recruitment and Assessment of Workers: Notices of the class were posted before the first cycle notifying all shifts, but management decided to target the second shift in particular. The Personnel Manager knew which workers were in greatest need of instruction and encouraged them to participate. Word-of-mouth in a small company like Spir-it now is the best recruitment tool, especially because workers like the classes.

  The Instructor/Coordinator uses the Basic English Skills Test (BEST) to formally assess workers. (ECI uses the BEST.) He also developed an informal assessment, a copy of which is attached.

- Classroom Site: Classes are held in a comfortable, large enough room which doubles as the Instructor's office when he is at the plant.

- Curriculum and Methods: The Instructor/Coordinator is developing a work related curriculum. He spent time with supervisors to become fully acquainted with the production process and he developed an instructional video to include all the production processes in the plant. Nonetheless, a wholly work oriented curriculum is difficult to use with workers whose basic English is very limited. "It's hard to get to 'stopping conveyors' when you're dealing with what city you live in." In the end, the Instructor/Coordinator tries to balance a work-oriented and grammar-oriented curriculum. There are many resources available through ECI and he has used Worksight: Picture Stories of People at Work, the Oxford Pictionary, and Skills Sharpeners for ESL Students, to name a few.

- Student Evaluation: See Assessment of Workers above.

- Selecting and Training of Teachers: ECI screened the Instructor/Coordinator in the same way that it screens all its teaching staff. It was fortunate to find someone willing to work on a nine-month contract. ECI pays the Instructor/Coordinator a full-time salary. The Instructor/Coordinator meets with the ESL Coordinator at ECI twice a week, but his schedule does not permit him to attend the regular ECI teachers group meeting. The structure of his job creates an unfortunate isolation which he has to overcome on his own time if he is interested in doing so.

Outcomes

- In putting together materials for hourly employee performance reviews, the Personnel Manager noted some changes in the productivity levels of 7 of the employees enrolled in the ESL class: production increased from 2% to 10%. The Personnel Manager is not comfortable attributing the increase solely to improved proficiency in English (she suggests that increased attention may also be a factor), but, nonetheless, positive results are noted according to a very specific company measure.

- Supervisors agreed that there was a big problem because workers could not understand directions given to them in English. This affected all levels of productivity, from the amount of scrap produced to the amount of down time on a machine that could otherwise be repaired with a little information and know-how. Feelings of inadequacy and lack of confidence also affected relationships among workers and their style of work. Supervisors observe the following results from ESL instruction:
  --Workers can identify what's wrong with a machine and get a mechanic to fix it without a translator;
  --Scrap decreased from as much as 15-16 pounds per day to 5-6 pounds per day;
  --Increased self confidence and satisfaction with being at work;
  --Greater independence in job performance and increased cooperation with co-workers; and
  --Increased appreciation for education.

- ESL classes might not result in job retention. The work at Spir-it is low paying and not very satisfying per se. If the automation of production methods results in more challenging and engaging work, the retention problem might decrease.

III. Needs/Recommendations/Complaints

- Insure ongoing support/collaboration with other teachers for the Instructor/Coordinator.

- It is important to note that MacDonald's is interested in purchasing biodegradable plastic coffee stirrers from Spir-it. The problem is that the "snowy white" coffee stirrer is a MacDonald's trademark, and biodegradable plastic is not snowy white. It is creamy coffee colored. What role do environmental (and other political/economic issues) related to the industry which houses a workplace education program have in the program's curriculum?

Site Visit Conducted October 23, 1989

Quinsigamond Community College
Workplace Education Program at
Kennedy Die Castings, Inc.
Worcester, Massachusetts

I. Program Summary

History of the Program

Kennedy Die Castings, Inc. is a forty-one year old manufacturer of metal castings located in Worcester, Massachusetts. Metal castings are the standard forms, frames or parts used in all kinds of manufactured items from utility knives to home computers. Founded by the senior Mr. Kennedy when the die casting business was in its infancy, the company is now run by his two sons. Like many small manufacturing companies throughout the State of Massachusetts, Kennedy Die Castings faces new challenges as it: 1.) converts its production methods to include sophisticated, often computerized machinery; 2.) introduces a team approach to problem-solving known as "quality circles"; and 3.) institutes statistical process control to keep costs down and quality up.

Management is so committed to making the transition from low to high technology that three years ago it invested in construction of a sleek new plant designed to make the company leading edge die casters for the next two to three decades. The company has an annual sales volume of eight million dollars and invests approximately one-half million dollars in new equipment each year. The company has about one hundred employees, mostly men. About sixty-five percent of the employees do not have English as their native language. There is no union at Kennedy Die Castings.

No longer able to draw on a labor pool of native English-speaking men from the Worcester area who were trained in die casting techniques in local vocational schools, the company is turning to a new labor pool of non-native English-speaking men who have not necessarily been trained as die casters. Many of these men are Southeast Asian, Polish and Hispanic. These workers need basic English language and computational skills in order to perform their jobs well. Changes in the production process will only continue to demand that workers adapt and upgrade their skills to accommodate increasingly sophisticated machinery and team methods of problem-solving. Providing on-site ESL instruction is one step toward developing both a skilled and adaptable workforce.

Kennedy management is willing to invest in the education of its workforce because it knows that this investment is essential to the success of the company. It needs workers literate in English and math in order to produce the volume and quality of products on which it has staked its reputation. But the educational program is also guided by a vision of the company where management and employees work together to maximize profit for all. There are two prime examples of this vision.

First, for some time management has been investigating the possibility of employee ownership of the company. The Employee Stock Ownership Plan gives tax benefits to company owners while employees purchase stock through the reinvestment of company profit. Whether Kennedy Die Castings stays on this road without the guidance of the recently departed Systems Manager remains to be seen. But the spirit of the venture still prevails. An ESL program can ultimately help employees to understand the social and financial consequences of supporting an Employee Stock Ownership Plan.

Second, management values education for education's sake. It does not tie the ESL program to unrealistic short-term production goals. One of the Kennedy sons taught high school science for eight years and understands the developmental nature of the educational process. He knows that long-term goals are achieved when allowed to build on small daily successes-- and failures. Furthermore, he knows that die casting is hot, dirty and repetitive work with little reward other than that of performing a task well. A well-crafted, work-oriented ESL program simultaneously puts a challenge into the work and rewards the workers for performing a job well.

More pointedly, at the end of each cycle of classes, management shuts down production for an hour to conduct a graduation ceremony where the elder Mr. Kennedy personally hands out diplomas. Mr. Kennedy's sons speak about the value of education; and cake and coffee are served. While graduation ceremonies of some kind are not unusual in workplace education programs, the graduation ceremony at Kennedy is a special testament to the integration of the goals and objectives of the Kennedy Die Casting ESL program into the life of the company.

Distinguishing Characteristics

- The Kennedy Die Castings workplace education program is part of a three-company workplace education consortium coordinated by the Center for Lifelong Learning at Quinsigamond Community College. The other two companies are Presmet Corporation and Madison Cable and Wire. Like Kennedy Die Castings, they are relatively small manufacturers of metal products. Monthly partnership meetings include upper-level mangers from all three companies. Thus a workplace education partnership becomes an opportunity for leaders of small metal manufacturing companies to discuss together the needs of their industry and the role of education in meeting them. The partnership becomes a support group of a kind.

- Kennedy Die Castings had piloted an ESL program and discontinued it for more than a year before the current program was funded. The successes and limitations of that program guided the design of a more workplace specific curriculum in the current year. Furthermore, the Center for Lifelong Learning at Quinsigamond Community College is an experienced provider of ESL workplace services. The Kennedy program draws on the Center for Lifelong Learning's experience and expertise.

- Time spent attending ESL class is paid like overtime-- at time and a half. In the pilot program last year, workers were given a total of two hours paid release time each week and were asked to match that with two hours of their own time. This approach was unsuccessful on two counts. Production demands could not tolerate losing people from regular shifts. And employees did not stay in class when they were not paid. The current policy addresses both problems. With the current design, workers do not attend class on shift time and are well paid for their time.

- The Kennedy Die Castings ESL Program is very visible within the company. Class is held one hour a day, four days a week. This makes attending class a regular part of what is expected from the work day.

Program Strengths

- Management is committed to the long-term integration of educational services into the culture of the workplace.

- The ESL program builds on its own knowledge of what worked in its pilot program and on the expertise of its learning provider.

- A well-documented curriculum is a strength of the Kennedy Die Castings program. The original Coordinator/Teacher, who recently left the program early on account of complications with her pregnancy, has a background in vocational ESL. This made the task of designing a work-specific curriculum easier than it might be for someone with a non-vocational ESL background. The curriculum is directly tied to various plant procedures. A further refinement of curriculum in subsequent cycles will include targeting the members of specific departments-- like molders and set-up crews for participation in the ESL program. This will require the curriculum to be tied that much more specifically to the details of work in those departments.

Problems/Concerns

- The one problem which the on-site Coordinator/Teacher encountered was limited access to supervisors. The all-male supervisors' group was not comfortable with a female teacher coming to their meetings. The potential gap in communication between the Teacher/Coordinator and supervisors was filled by the teacher's daily communication with the Systems Director who stayed in close touch with supervisors' needs and concerns. There is now a new teacher, a new on-site coordinator (the two roles are no longer merged in one person), and a new Systems Director. Plans are being made for weekly feedback sessions with supervisors and the teacher. During these sessions supervisors will be updated on weekly lesson plans so they can reinforce and amplify those lessons on the shop floor. There is general enthusiasm for this plan.

II. Program Design and Implementation

Program Organization

- Partnership: The partnership at Kennedy Die Castings includes the Madison Cable and Wire Company and the Presmet Corporation, a maker of powdered metal products, as well as Quinsigamond Community College. The partnership works well as a partnership charged to oversee the business of implementing their three separate workplace education programs; but it also enjoys the added dimension of collaboration among three companies in the same general industry who face similar problems but do not directly compete with each other for customers. The Project Coordinator for Workplace Education at Quinsigamond Community College convenes the partnership meetings and is broadly responsible for maintaining the quality of the partnership.

- Coordination: Until recently the on-site Coordinator was also the teacher for the Kennedy Die Castings ESL program. A new teacher was recently hired, as was a new Coordinator who is responsible for coordinating all three programs in the partnership. The teacher is accountable to the on-site Coordinator and the on-site Coordinator is accountable to the Coordinator for Workplace Education at Quinsigamond Community College. This three tiered approach to coordination works because communication among the players is regular and open.

- Barriers/Incentives to Worker Participation: Overtime pay is a big incentive for employee participation in the Kennedy Die Castings ESL program. There are no apparent barriers to participation other than the limit of approximately ten students to the class.

- Expansion/Innovation of Services: Cross-Cultural Awareness Training Seminars for supervisors were part of the original design of the Kennedy Die Castings ESL program. The Quinsigamond Community College workplace education specialists had seen these seminars work in the T.J. Maxx/Newton Buying Corporation ESL program, where they made an important impact on how supervisors perceived the employees under their direction. Federal overseers of the Kennedy program were not convinced of the relevance of the relationship between supervisor training and the overall efficacy of ESL instruction delivered in the classroom to employees. In fact, the connection is very important. As other MWEI evaluations have demonstrated, when supervisors are fully apprised of the scope and content of their workplace education programs and when they are encouraged to feel themselves a part of the learning/teaching process, workplace education programs enjoy greater success. Specifically, the T.J. Maxx model demonstrated that when supervisors are given cross-cultural awareness training, they are better able to appreciate the effort involved in learning ESL, in coping with a new culture in general, and with fulfilling their roles as employees in a new work setting. This new-found sympathy, based on information, for the people under their direction enables supervisors to support and amplify ESL learnings on the shop floor.

  ESL staff is considering inviting supervisors to discuss special aspects of the work process at Kennedy Die Castings as guest speakers in class sessions and/or in special seminars.

  Quinsigamond Community College will sponsor a one-day Teacher Training Conference open to all workplace education providers.

Education Component

- Schedule of Classes/Enrollment: Eleven workers are enrolled in the current cycle of classes. This is the second twenty-week cycle offered in this program year. Classes are held one hour a day, Monday through Thursday from 2:30 to 3:30 p.m. to target first-shift employees. A couple of employees enrolled in this class are carry-overs from Cycle 1 but most are new to the program.

- Recruitment and Assessment of Workers: The company is responsible for recruiting employees. Management and supervisors know which employees at which work stations need help and therefore make the recommendation for enrollment. This procedure has worked well because employees consider attending class a benefit, not a punishment; and they are free to attend or not to attend. Although the class level is designated Low Intermediate, recruitment by company representatives can result in mixed levels of students in one class. This is a common problem encountered in workplace ESL. In the Kennedy case it is remedied by the use of tutors to help the employees with lower-level skills.

  Employees are assessed pre and post-program with a test designed by the former on-site Coordinator in concert with workplace education staff at Quinsigamond Community College. The test will be revised by the new on-site Coordinator in concert with workplace education staff at Quinsigamond Community College to better reflect the worksite-specific curriculum.

- Classroom Site: Classes are held in a private corner of the employee cafeteria. The area is fixed up to look like a classroom with posters on the wall and a drawing board. Location of the classroom has not presented a problem. Other employees are asked not to enter the cafeteria when class is in progress.

- Student Evaluation: See above Assessment of Workers.

- Curriculum: For fiscal reasons the start up of the Kennedy Die Castings ESL Program was delayed for two months from November 1988 to January 1989. The on-site Coordinator was prepared to begin work in November, however, and Quinsigamond Community College was able to pick up her salary during the lag period. This allowed her to spend time exclusively planning curriculum and relieved her of the burden of having to develop curriculum at the same time as she was using it. On account of the curriculum planning period, the curriculum is coherent and work-specific. Management was especially interested in having the following worksite-specific questions integrated into the curriculum:
  1.) How is the shop organized?
  2.) Who runs it?
  3.) What are the shop rules?
  4.) What are the safety issues?
  5.) What basic math is needed to fill out cards?
  6.) What are the issues in the employee handbook to be included? (Like procedures for earning vacation.)

  Issues that might in another context be considered "life skills" are being integrated into this work-specific curriculum in a creative fashion. Health and illness issues, for example, are related to sick days; body parts are related to safety issues, like the wearing of gloves or glasses; and transportation issues are related to getting to and from work.

  The former on-site Coordinator also produced a highly successful slide show narrated by one of the Kennedy sons to introduce the worker to the plant, supervisors and work processes at each of the workstations. Employees like this part of the curriculum very much. The slide show testifies to the power of sound/image media as an educational tool. More materials of this kind could be developed.

- Selecting and Training Teachers: Teachers are selected and trained by the learning provider agency. Regular supervision of teachers is given by the Project Coordinator for Workplace Education at Quinsigamond Community College.

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Outcomes

- Management and learning provider concur on the following outcomes:
  1.) Increased communication with/among workers enrolled in the ESL program;
  2.) Increased understanding of instructions;
  3.) Increased ability to communicate directly with supervisors the particular job tasks or on personal matters;
  4.) Increased self-confidence of workers;
  5.) Increased retention of employees on the job; and
  6.) Increased ability of enrollees to work together and problem-solve in "quality circles."

Management is interested in more concretely measuring the educational gains of the enrollees than is currently being done. It is also interested in figuring out how to measure the long-term savings an ESL program might bring to the company. Productivity is bound to increase as a result of the outcomes listed above. An increase can potentially be measured by the amount of scrap saved and by the amount of output in a given hour. Hourly output is currently checked by each area supervisor. It might eventually be possible to track a difference pre and post-ESL.

III. Needs/Recommendations/Complaints

- The federal Department of Education should not interpret grant guidelines so strictly as to impede program development at the local level. There is a working relationship between life skills and work-related issues and teachers should have the freedom to direct curriculum to these points of intersection. "One can restrict a program so that it kills creativity," said one senior manager.

- Management suggests that the ESL program should focus on two kinds of assessment. First it should focus on assessment of employees' educational gains and then on benefits to the company which are a result of supporting an ESL program.

Site Visit Conducted September 19, 1989

The Lawrence Adult Learning Center Workplace Education Program at Friction Materials, Inc., Lawrence, Massachusetts

into the basic skills curriculum. Workers immediately stopped complaining about the incorporation of work terms into their ESL classes (which they were doing before, saying: "This is supposed to be an ESL class, not about work."), and learned with enthusiasm about the tasks they are required to perform on their jobs.

The on-site Teacher/Manager continued to work with supervisors to incorporate work-specific material into the curriculum. ALC staff still required that the grammar-based curriculum also be followed and it appears that some workable balance between work-specific and grammar-based approaches was achieved. It is significant that workers took so enthusiastically to the incorporation of work-specific materials into their ESL class rather than complain about not being able to learn about the things which matter to them as human beings apart from work. It seems that these workers were hungry for some basic skills training that would set them free to really do their jobs. They know what a precarious position the company is in and want to do their best to keep their jobs and to make more money-- which they will do as they improve their hourly output. Union leadership supports the work-oriented program for these reasons, too. While they are pleased with the program, they think the company could do even more-- notably to extend class hours-- to help workers produce more efficiently and also to qualify for the skilled, higher paying jobs which are available in the company

In the late winter/early spring with enrollment around 60 (ten above the 50 workers which the grant targeted), it seemed that the FMI program was one of the best examples of a successful, dynamic workplace education program in the federal cohort. (The program started up on February 27.) Then the lay-offs hit. Over 100 workers were laid off. Classes were reduced by over two-thirds, leaving only 14 workers currently enrolled. (Workers with no seniority were the first to go and they were the majority of those enrolled. Thirty-one out of 69 workers enrolled between February and October were employed between 0 - 5 months; 12 were employed for 6 - 11 months; 20 for 1 - 5 years and only 6 more than 10 years.)

The reason given for the lay-offs is lack of orders caused by a small recession. Ordinarily, distributors and large transit companies keep their shelves well stocked with brake linings. In a recession, their business slows down; they don't buy as much; and take the risk that they can buy quickly as the need arises. (When a truck company is working full tilt, it needs to have brake linings on hand. When business slows and trucks are idle, orders dwindle.) The lay-offs were not as much a surprise, however, to management as they were to some workers. The old P.T. Brake Company had lost many customers because of its "ship anything" attitude (i.e. no quality control) and hadn't wooed them back quickly enough. Instituting SPC and establishing a workplace ESL program were part of an overall strategy to revive the company, but there wasn't enough time, it seems, to go far enough with the plan before recession and lay-offs hit.

With the lay-offs, the workplace education partnership had to re-think how to reach workers with ESL needs who were not enrolled in the regular classes and who apparently would not enroll-- the "hard core" employees who have been with the company for a while. The partnership agreed on the following solution: "esoteric" English-- vocabulary relating specifically to SPC, including phrases like "recording of data variable", "attributes and their function", etc. will be added to the six half-hour SPC training units which many employees are required to take. This means that the 54 workers enrolled in these SPC classes will also receive a total of one hour of specialized ESL instruction in addition to the formal SPC training. (Ten minutes each x six half-hour units.) The regular ESL classes will continue on a smaller scale.

Meanwhile, the ALC on its own initiative is converting its basic curriculum to be competency-based. Among other things, they want to design a basic check list for assessment, so teachers can easily see what students have mastered. This new curriculum will slowly work its way into the FMI program.

The outcomes which union representatives, managers, supervisors and teachers described during the early spring pilot study showed the promise of the FMI program. Scrap was reduced significantly, saving the company thousands of dollars in a few weeks time; workers were taking initiative at their workstations; and all the partners seemed to be fully engaged in the exciting business of making a program work. In contrast, in October, morale was very low and the excitement gone. This may account for the surfacing of some other problems (described below) which the first rush of success held at bay.

Distinguishing Characteristics

- The FMI program has given the name "ESL with contextual workplace vocabulary" to the integration of workplace-specific issues with a grammar-based ESL curriculum. While the concept is not new-- this is what most ESL workplace education programs in the state and federal cohorts do-- the name distinguishes the effort at FMI.

- The two teachers on the FMI program both speak Spanish. (One teacher is Mexican; the other is an American who lived in Spain.) The ALC Workplace Education Coordinator considers the bilingual talents of the FMI teachers to be a strength of the program and hired them with that in mind. Workers say that they couldn't imagine receiving instruction from teachers who do not speak Spanish. Workers say they feel at home with their teachers and with the program in general because Spanish is understood and spoken by all the key players.

- One of the teachers works half-time in the FMI personnel office. Her knowledge of company goals and of the workers was initially seen by ALC staff as an asset to the workplace education program. Although this asset turned out to have its liabilities (see Problems/Concerns below), the fact that an employee of the host company is a teacher in its workplace education program distinguishes the FMI program.

- One of the teachers was paid by FMI to conduct a Spanish class for supervisors for several months. Six people (1 supervisor, 3 foremen and 2 others) attended the class which was held during the lunch break. The class was never expected to turn FMI into a predominantly Spanish-speaking environment; but the effort which some supervisors and workers made to learn about the language and culture of their co-workers had good results. It showed the English-speaking people how difficult it is to learn another language; it demonstrated good will to the Hispanic workers who are clearly in the position of having to adapt to the rules-- linguistic and otherwise-- of another culture; and it resulted in better communication because English-speaking workers and supervisors simply understood some Spanish. Employees at FMI are predominantly Spanish-speaking. Unlike other programs where there is usually a mix of people from different cultures, all the ESL students at FMI are Spanish-speaking.

Program Strengths

- The integration between the content of ESL classes and the need of the company to prepare workers for SPC training was-- and is-- a strength of the FMI program. Although the initial emphasis in curriculum development was on language skills, there was also an interest in developing a math component to prepare for SPC training. (This interest may have been tabled on account of the lay-offs.)

- Workers are pleased with the curriculum and excited about learning how to perform their jobs more efficiently.

- The FMI has the full support of management. There is no release time per se at FMI but workers are paid for two of the four hours per week they spend in class.

Problems/Concerns

- Lay-offs are the biggest problem the FMI program faces. The program is reduced in numbers and the continuity of the learning environment is disrupted. Workers who remain employed are demoralized and wonder if the promises the program makes (about pay increase and job mobility) can be kept.

- Transportation: FMI is located on the outskirts of Lawrence and is not accessible by public transportation. Workers often car pool to get to work and workers enrolled in the ESL class also have to depend on rides with fellow students to leave the plant and go home. This means that if one worker has to go home early and miss class, he might take two or three other workers enrolled in class with him. The teachers often give homework to workers who will be absent from class with the understanding that the workers will get credit for attendance if they complete the work.

- Some workers have to leave at shift change because they have a second job and therefore cannot attend classes.

- Different cultural interpretations about the role of women resulted in some tension between students and the female teacher. FMI has a predominantly Hispanic male workforce. (Only 10 of the 69 workers enrolled in the ESL program are women.) Some male workers were very uncomfortable with a woman teacher. They felt it was inappropriate to take orders from her and generally challenged her authority. Fortunately, the teacher handled the situation well, firmly (and, one suspects, humorously) establishing her expertise.

- Although ALC staff initially considered it an advantage to have a teacher who was also employed in the personnel office, they now consider that it might be a liability to have a teacher who is viewed as being closely allied with the company and with company policy. Workers can be suspicious of a teacher who wears these two hats. (Whose side is the teacher on?) Similarly, company management may see the teacher first as an employee and then as a teacher, subtly weakening the teacher's authority and capacity to act independently on behalf of the education program.

- Although union leadership supports the ESL program, it is critical of how classes are designed too closely around the company agenda.

- Lines of authority between the ALC off-site Coordinator and the on-site Teacher/Manager have sometimes crossed. While this arrangement works without problem in other programs, at FMI questions about who is empowered to make program changes and how they are made sometimes complicate program operations. (See Coordination below.)

II. Program Design and Implementation

Program Organization

- Partnership: The partnership in the FMI program is strong. There is a genuine sense of collaboration between Friction management, the union and the ALC. The program advisory board meets once a month for an hour to discuss everything from daily operations to future funding. The question which has dominated partnership meetings in recent months is how to reconcile ongoing program development with the lay-offs. "Having a good partnership does not mean having easy answers."

- Coordination: Coordination in the FMI program is two-tiered. There is a half-time off-site Workplace Education Coordinator at the ALC and an almost-full-time Teacher/on-site Program Manager. Rather than facilitate program operations, this two-tiered coordination raises questions about who is empowered to define the program, change it and manage it. ALC staff suggested that the daily connection the on-site Manager has to the workplace is a strength that should be built on. At the same time, some accountability to the ALC must be maintained.

- Barriers/Incentives to Worker Participation: Lay-offs and problems with transportation are the biggest barriers to worker participation in the FMI ESL program. Incentives include increased wages which accompany increased hourly output, a predictable outcome of participation, and job mobility. (There are better jobs for which workers with limited skills can qualify when they increase their skills.) The belief that participation in the ESL program will strengthen company competitiveness and increase job security is also an incentive for workers who want to keep their jobs in a successful company.

- Expansion/Innovation of Services: The phrase "ESL with contextual workplace vocabulary" describes the integration of grammar-based ESL and workplace-specific curriculum in a new way. Adding ten minutes of "esoteric" SPC/ESL to each of the six half-hour SPC training sessions which enroll 54 workers is also a significant innovation in program design.

Education Component

- Schedule of Class/Enrollment: ESL classes meet four times a week at two times: M T W Th from 2:00 p.m. to 3:00 p.m. (for first-shift people) and 3:00 p.m. to 4:00 p.m. (for second- and third-shift people.) The 48-week program enrolled 60 workers at the beginning and had a total of 69 workers enrolled until the lay-offs began. Of the 69 workers enrolled, 59 were men and 10 were women. All workers enrolled in the ESL program were Hispanic. As of October 16, 1989 only 14 workers were enrolled. (For description of "esoteric" ESL see History above.)

- Recruitment and Assessment of Workers: Recruitment was a collaboration between ALC staff and the company. The company xeroxed and posted a letter written by the off-site Coordinator announcing the program in Spanish and English. The company gave the off-site and on-site Coordinators a table in the cafeteria for two days to have easy access to workers.

  The ALC uses the Basic English Skills Test (BEST). The off-site Coordinator does not like the test, but thinks it is the best of what is available. Workers are then grouped in classes by their scores in oral comprehension, reading and writing.

- Classroom Site: A supervisor's room and conference room are used as classrooms with no problem.

- Curriculum and Methods: A literacy audit conducted before the start of classes identified the workplace-specific vocabulary which supplemented the standard ALC grammar-based curriculum. The on-site Teacher/Manager then worked very closely with supervisors to understand the total production process and to integrate vocabulary, procedures, machine functions, etc. into the curriculum. As the ALC moves toward designing a new competency based curriculum, elements of that new curriculum are being incorporated into the ESL program. The on-site Teacher/Manager is also working with the SPC Manager to develop the "esoteric" SPC/ESL.

- Student Evaluation: The goal is to develop competency-based check-lists so the teachers can easily assess what students have mastered.

- Selecting and Training of Teachers: Teaching staff is selected by the ALC. One teacher is hired for 10 hours per week; the on-site Teacher/Manager is hired for 30 hours. Teachers are paid for prep time and for meetings. The on-site Teacher/Manager meets with the off-site ALC Coordinator once a week, although they see each other frequently during the week in the ALC office. The Teacher/Manager meets with the other teacher. All three staff do not meet together. The ALC has a tutor program and two tutors were linked for a time with two workers from FMI. The tutor program is generally linked to ABE/GED instruction, however, and the use of tutors in the FMI ESL program did not catch on. There were not enough tutors available for ESL students.

Outcomes

- Within a few weeks of establishing the work-specific ESL program (with input from supervisors) workers, managers and supervisors began to see dramatic changes. Other results manifested over time. Examples of both include:
  --After two weeks of instruction, the company saw a 40% reduction in scrap. (The scrap rate used to be about 60%; now it is 16%. Before the ESL class the company was throwing away more in scrap than it was using in products.);
  --Production improvements on one line of about 20% manifested in the first week, thereby increasing salary for workers;
  --There is documented improvement in the company-wide safety record. As of October 1989, the personnel office had gone three months without a "loss time" accident report;
  --Retention of workers increased dramatically (before lay-offs);
  --Workers are more self-reliant; they ask questions and take initiative with the machines; they teach each other about SPC;
  --Some workers had memorized English report forms in order to be able to fill them out. Now they are able to recognize actual words and know what they mean so paperwork (handwriting, spelling, placement of information) is improving;
  --Union leadership saw an increased understanding of union rights and benefits and a greater appreciation for education in general; and
  --The ESL program improved general relationships throughout the company: between supervisors and workers and between workers and workers.

III. Needs/Recommendations/Complaints

- Assist the partnership in sorting out the lines of command between the on-site and off-site coordinators.

- Address the transportation problem by renting, buying, or joining another company in the use of a van.

- Schedule state-wide in-service trainings on curriculum development and assessment, with particular focus on measurement from both the academic and employer perspectives.

Site Visit Conducted October 15, 1989

The American Federation of State, County and Municipal Employees, Local 1776 and The University of Massachusetts Workplace Education Program, Amherst, Massachusetts

I. Program Summary

History of the Program

In 1984, well before State funding became available in Massachusetts for workplace education programs, the Staff Training and Development Unit (ST&D), Division of Human Resources at the University of Massachusetts (UMASS) in Amherst, began to provide literacy services to a portion of its employees. The University had become aware that many employees lacked the basic skills to take advantage of the educational opportunities which it offered-- notably tuition remission-- and decided to offer a basic skills program which would eventually qualify employees to take advantage of other programs. During the next three years, the new basic skills program served about 25 people. The American Federation of State, County and Municipal Employees (AFSCME), Local 1776, the union which represents most of these employees, assisted ST&D in recruiting employees for the program. When the union learned in early 1987 that State funding was available for workplace education programs, it initiated a partnership with ST&D for a jointly sponsored labor-management literacy program. In September 1987, the State funded the proposed program. After two years, when federal funds became available for workplace education programs, the same partnership submitted a proposal for an innovative program which extended the scope of the basic skills program and which they hoped would be the final link in the bridge to full use of education and training opportunities by employees. This program is called "Next Steps" and it is the focus of this profile.

UMASS is a land grant, public institution of higher education. Student enrollment exceeds 25,000. Campus employment exceeds 6,000. The workplace education program, including Next Steps, targets the 1,250 members of AFSCME, Local 1776. This includes food service, farm, janitorial, security, grounds and trades workers. The male to female ratio is 2:1. Two percent are Asian; 2% are Hispanic; 3% are Black; and 93% are white. Educational level varies significantly from limited basic skills to graduate degrees.

Although UMASS is an educational institution committed to providing quality education to thousands of students, it was not easy to extend the theory or practice of quality education through the University's administrative structure to employees. The revolution in management style, which hit American industry ten to fifteen years ago and which stresses worker participation in decision-making and access to training, avoided until recently the halls of academe. In fact, feudal-like distinctions between faculty, management, students and workers tend to be more the functional model at UMASS than not. Workers at the bottom of this order are generally not solicited for opinions or knowledge about how to conduct business, even if they know more than others about the task at hand. Furthermore, in this environment, supervisors are apt to hold stereotypical views of workers' reasons for enrolling in educational programs-- "they just don't want to work"-- and suggest that workers do not even deserve to learn "managerial" skills like communication.

While supervisors are getting younger, and the class divisions which underpin the kind of stereotypical thinking just described, are being slowly challenged, the Next Steps component of the workplace education program was born in an environment which desperately needed to challenge outworn structures of social relations at work and is itself a vehicle for bringing about that change. Its success with workers is evident in its enrollment statistics. The program grant targeted 50 workers per month. On average, the program reached 45 workers per month. As of September the program had enrolled 98 workers. "Enrolled" means that they attended at least 8 hours of workshops. On average, participants completed 16 to 24 hours of instruction.

Next Steps is a "workshop program developed to complement the existing ABE/GED/ESL services by introducing topics which focus on the skills and information needed to enhance career and personal development." It four goals are:

1.) Skills and Empowerment Training through Literacy: to assist participants in developing skills and awareness for taking advantage of learning and career ladder opportunities to meet their own career goals;

2.) Workplace Improvement through Literacy: to improve the quality of UMASS work environments by cultivating effective workplace leadership, communication and problem-solving skills;

3.) Bridging through Literacy: to build linkages across the various educational and counseling programs serving worker-learners, in order to facilitate access and clarify learner options; and

4.) Model Workplace Literacy Program Development: to develop a learner-centered training model to supplement and reinforce workplace basic education programs.

Since June (and through January) Next Steps has offered a monthly workshop to a maximum of 35 workers in each session organized around a topic like "Effective Workplace Communication" or "Workplace Conflict and Problem-Solving." (See Curriculum below.) The workshops are divided into three sessions; the first two meet for 3 hours and the third for 2 hours. Each workshop is given twice to accommodate the schedules of workers from different departments. The sessions are highly organized and full of both information and opportunities for experiential learning, just like the best management trainings. Workers are also asked to set aside 2-3 additional hours for evaluation and follow-up. (Some of that time might not be release time-- the workshops are given on 100% release time.) In addition to providing services through the workshop format, Next Steps has a "second stream" of activities: it is adapting the content and process of the workshops to the ongoing ABE/GED/ESL classes. This means that Next Steps staff meets monthly with basic skills program staff to discuss approaches to integrating workshop themes into the classes, and that they work with one teacher to adapt Next Steps materials for classroom use. (A workbook is being compiled and is available for teacher and tutor use. Because this work is time consuming and tedious, Next Steps staff hopes to hire a part-time teacher to work on adapting materials for classroom use during the last part of the funding period.)

The Next Steps program is learner driven. While staff had clear goals in mind at the start of the grant period, they understood that the success of their program would rest with its ability to address the needs of the employees as they experienced them. Thus program staff paid great attention to the process of development of their curriculum. In March the instructional team presented a two-hour "preliminary workshop" to each of the basic skills classes. These workshops were an introduction to Next Steps, taught goal setting and analytic skills, and also functioned as a needs assessment, identifying the interests, concerns and skills levels of the participants. Between March and June, Next Steps staff also worked with management and supervisors to fine tune the release time policy and recruitment strategies. It was during this time that Next Steps staff worked most closely with supervisors, informing them about the program's goals and methods, knowing the supervisors would be a critical link in the program. Supervisors would both inform workers about the program and grant them release time. Next Steps offered its first full program of workshops in June. It will develop and offer new curriculum through November. In December and January it will repeat two of the workshops which were in greatest demand. (This will free up staff time to document the workshops and write up technical notes.) And in January it will offer 2-3 days of intensive workshops for food service workers who are particularly restricted in attending during the regular school year because of the schedule of their service-demand periods and because of hiring freezes and budget cuts which leave their departments short-handed. (Sixty-five food service workers signed up for the program; eight were allowed to enroll and none can now attend.)

It would have been hard work in the best of times to persuade some of the supervisors of the value of the program to them and their workers. But state budget cuts and a hiring freeze make the situation more difficult. It seems that upper-level management is in the awkward position of supporting worker education with full release time and at the same time making undiminished demands of supervisors working with skeleton crews. Supervisors in turn say that they cannot spare their workers, sometimes feeding their own worst stereotypes about workers reasons for choosing education over work. (As mentioned above, the classic stereotype is that workers will choose to do anything but work.) It is an example of the creativity and learner centeredness of the Next Steps model that these dilemmas are being used in workshop sessions. Next Steps is one example of the slow movement toward adapting a more progressive and flexible management style in the old university structure. It is a groundbreaker in this regard. As supervisors learn a new way of directing their crews and as New Steps methods become more fully integrated into the regular programs offered by ST&D, New Steps might find itself in the role of grandmother to many important management innovations at UMASS.

Distinguishing Characteristics

- Next Steps is concerned with teaching broad-based problem-solving skills at the workplace, not with functional job-specific skills.
- Next Steps is like a small learning lab where a workplace-oriented, problem-solving curriculum is distilled, presented on its own merits, and then applied to the ongoing basic skills program. The sense of the program being a learning lab is enhanced by the fact that the program staff are all professional educators, most of whom are affiliated with from the UMASS Graduate School of Education, a school praised for its innovative approaches to adult education. One is affiliated with the Graduate School of Management.
- Next Steps is an actual collaboration between labor and management. The program consciously set out to construct a model partnership between labor and management that would experiment with learning methods and learning support networks. It is achieving its goal.
- Next Steps is a program which earns its right to describe itself as "of the workplace." It is learner centered in theory and practice. Although staff want more participation from learners on the advisory board and at weekly staff meetings, teachers and the Coordinator do structure the workshops on the basis of what learners want to learn, on their long and short-term goals, and on their evaluations of program content and process.
- Next Steps has an evaluation system which includes quantitative and qualitative in-house data collection and several kinds of learner evaluation surveys, checklists and feedback meetings.
- Next Steps has the advantage of being able to draw on many resources from both the university and general community. For example, a former Chancellor sits on the advisory board; and tutors come from within a fifty mile radius to be part of the workplace education program. (Tutors are trained by the Commonwealth Literacy Campaign.)
- The scope of Next Steps is large: it targets the 1,250 members of AFSCME, Local 1776. The other companies in the federal workplace education program cohort target from 20 to 200.
- Next Steps is concerned with outcomes measured in terms of self-esteem and self-confidence, and the relationship of those variables to productivity.
- The quantity and quality of promotional material Next Steps (and the workplace education program in general) have produced distinguishes the program. There are annual reports, handbooks, flyers, etc. where the program(s) are fully described. These materials are available to potential learners.

Program Strengths

- Next Steps recognizes the critical role which supervisors and stewards play in supporting a workplace education program. Next Steps staff reports to supervisors and stewards to keep them informed about program progress during supervisors' and stewards' monthly or weekly meetings. Staff make sure that supervisors and stewards are thanked for their support with letters from the Chancellor, citations in their personnel files, and presentations of certificates of approval at graduation. Staff understand that as supervisors and stewards are rewarded for their support of workplace education, workplace education will be woven more inextricably into the fabric of life at UMASS.
- Next Steps enjoys a 100% release time policy, even though a limited number of employees can make use of it at one time.

- The workplace education Advisory Board (there is one board for the basic skills and Next Steps components combined) is a large, strong, well organized working group which is eager to help staff solve problems. Board membership is diverse and advice is therefore broad-based.

- Retention of employees in the program is high. Workers want to stay enrolled once they attend a group. This is good advertising for the program.

- The awareness among staff that developing an innovative program like Next Steps is a slow process of identifying needs and appropriate strategies is also a strength of the program.

Problems/Concerns

- The potential learner group is so large that it is difficult to insure that everyone receives adequate information about the program. Supervisors sometimes do not pass along the information. There is a need to work with supervisors more consistently throughout the life of the program and not just at the beginning. This requires more staff time. The large group also makes needs assessment difficult.

- Budget cutbacks and a hiring freeze limit both the number of employees who can participate in Next Steps and the time they have available to participate. Recruitment of minorities and women who work in housing and food services has been especially limited (these zones are especially hard-hit by budget cuts and the hiring freeze), so most learners are white males from the trades. There is a waiting list for enrollment in Next Steps but the workshops usually run under their 30 person capacity. Because of the limit on the number of employees per zone who can enroll in Next Steps, many employees have to wait to enroll even while there is space available in the workshops.

- Three hours, long as it seems, is not enough time to discuss the topics which employees want to discuss in one meeting. Program staff has re-thought the workshop design for next year and has proposed that employees commit to a fifteen week cycle of 2-3 shorter classes per week. This might also alleviate the release time/short-on-staff problems with supervisors.

- Integrating Next Steps with the basic skills program curriculum is not a one-step process. There are six different ABE/GED/ESL classes with learners at different levels. This means that Next Steps materials must be adapted "especially for" each class, demanding a lot of time and work.

II. Program Design and Implementation

Program Organization

- Partnership: The partnership between AFCSME Local 1776 and the Staff Training and Development Unit, Division of Human Resources is respectful and strong. Local 1776 membership is the target group for the program and union leadership supports the goals and practices of the program. It appears, however, that union involvement with the program is limited to general support (including donation of space) and that there is room for more discussion and actual collaboration between union leadership/members and the program staff. Some union members suggest that it is easy for the union to become so involved with other matters, like contract negotiations, that education is put on the end of the agenda when it should be at the top.

  An advisory board with seventeen members representing the union, management, learners, faculty, basic education experts, supervisors, an ex-Chancellor and others interested in workplace education, meets every month or so and is chaired by the Director of the Division of Human Resources. The meetings are short and well documented; and there is an opportunity for helpful discussion of issues.

- Coordination: The workplace education program Coordinator and the Next Steps Instructor/Coordinator are responsible for coordination in this program. The Instructor/Coordinator has primary responsibility for coordinating Next Steps. Coordination in Next Steps is labor intensive. Coordination is needed between Next Step teachers and with basic skills teachers; with supervisors and learners; with union leaders and with managers. It may be that the commitment to the process of letting the program develop naturally out of the needs of the learners elicits a natural coordination among the many parts of a complex whole which in turn facilitates the multi-level effort to keep program staff fully informed.

- Barriers/Incentives to Employee Participation: Full release time and the quality of the workshop experience are two incentives to employee participation. Cuts in the UMASS budget, a freeze on hiring, supervisors' reluctance to release employees for three hours at a time, and the slow response of upper management to press hard for the education option with supervisors are barriers to employee participation.

- Expansion/Innovation of Services: The Next Steps model itself represents an innovation in the delivery of workplace education services.

Education Component

- Schedule of Classes/Enrollment: One workshop unit is composed of three sessions, two of which meet for 3 hours and one of which meets for 2 hours. (In addition, learners are required to set aside 2-3 more hours for evaluation and follow-up, often on their own time.) There is one session per week for three weeks and then a break for one week before a new unit begins. Each session is scheduled twice to accommodate employees on different shifts-- on Tuesday mornings and Thursday evenings. The program asks learners to enroll for a one-month period, but release time has to be negotiated every month with supervisors, making much paperwork.

  Total enrollment as of September 30, 1989 was 98. Sixty-nine are men; 29 are women. Seventy-two of the total are white; 13 are Asian or Pacific Islander; 7 are Hispanic; 4 are Black; and 2 are American Indian or Alaskan Native. Sixty-four of the total are between the ages of 25 and 44; 26 between the ages of 45 and 59. Only 5 are between 16 and 24; and 3 are 60 and over. Seventy-seven of the total have completed or function at grade levels 9-12. The majority-- 52 of the total-- have been employed between 1 and 5 years; 9 between 0 and 11 months; 25 between 6 and 15 years; 4 between 16 and 20 years; and 8 over 21 years.

- Recruitment and Assessment of Employees: Employees were informed about the program through the union newsletter, announcements in basic skills classes, flyers, and word-of-mouth. Program staff informed stewards and supervisors who in turn, it was hoped, would inform potential learners.

  Assessment for Next Steps included an initial needs assessment of potential enrollees in the program (in March of 1989) and ongoing individual work with all learners to identify short- and long-term personal goals.

- Classroom Site: The program uses a variety of comfortable spaces across the campus. Space is at a premium and sometimes must be scheduled for use well ahead of time. Priorities are for flexible space where students can break into small groups, and where students can have refreshments.

- Student-Worker Evaluation: Evaluation is highly valued in the Next Steps program and learners are regularly asked to complete evaluation forms-- after each session and after each workshop. Evaluation is generally concerned with two things: 1.) how participation in the program changed the learner; and 2.) how the learner would improve the program. For example, the evaluation of the summer workshops asked learners if they tried something new (on account of participating in the program); thought about something differently; wrote something; explored or investigated something; or changed something-- all on account of participating in the program. The evaluation form gave examples of each of the above categories. The form makes it clear that future programs will be informed by the current learners experiences and opinions and asks for feedback.

- Curriculum: The curriculum for the workshops is very detailed and well organized. A list of the workshop topics for the six months from June to November is included here.

  Workshop topics are:
  1.) Workplace Effectiveness;
  2.) Effective Workplace Communication;
  3.) Worklife Planning;
  4.) Workplace Change and Decisions;
  5.) Workplace Conflict and Problem-Solving; and
  6.) Workplace Diversity.

- Staff Supervision and Training: There are four teachers and one Instructor/Coordinator. All staff are currently women. For the first nine months of the program there was one Black South African male instructor. Now, two teachers are white; two are Asian. The Instructor/Coordinator is also white. Teachers are paid ten hours per week at $10.00 per hour. They are paid for prep time. Teachers meet regularly once a week with the Instructor/Coordinator. The Instructor/Coordinator meets as needed with the workplace education program Coordinator.

Outcomes

- The Next Steps program would like to see the following outcomes:
  1.) Learners meet goals that are self-set;
  2.) Positive evaluation of workshops;
  3.) New behaviors (e.g. increased self-confidence) triggered by participation in the workshops; and
  4.) Increased empowerment, productivity, communication skills, critical thinking skills, and multi-cultural skills.

- Program staff have observed these outcomes in varying degrees among program participants and have also observed the following:
  --Development of group cohesiveness and group identity;
  --Development of peer support;
  --Increased cooperation among workers;
  --Increased ability to work independently;
  --Increased self-esteem;
  --Increased understanding of union activities and benefits;
  --Improved relationships with children and other family members; and
  --Greater community and civic awareness and participation.

- Although discussion of outcomes did not focus on productivity, conversations with union representatives and learners raised important issues concerning the effect of participation in Next Steps on productivity and cost containment. As employees gain confidence in their abilities to speak up about the wastefulness of some decisions which are made by their superiors, they also speak up about how their experience and knowledge of the jobs to be done can save money and increase production. "It's very degrading," said one union representative. "If you're a worker, you're seen as a dummy. We could save the University thousands of dollars if they'd just listen. We know. We're the ones who do the work." Several examples were given of how waste can be cut substantially by repairing and conserving equipment and materials rather than throwing them away to make way for new things. Next Steps produces a climate where suggestions from workers are welcomed and valued.

- Two important unanticipated outcomes are:
  - The Next Steps program has recruited a number of learners for the basic skills program; and
  - The Next Steps program legitimized discussion of the social climate at the University (including class distinctions), something which is consistent with the academic philosophies of many of the Schools and Departments at UMASS, and which some people have wanted to do for a long time.

III. Needs/Recommendations/Complaints

- To work with union leadership to increase union participation in program operations and to understand its important role in educating supervisors about the value of the program.

- To offer regular training for supervisors about the program and the learning process in general. Encourage personnel to evaluate supervisors on the educational development of their workers.

- To explore whether other unions (like clerical) might take advantage of the Next Steps program.

Site Visit Conducted November 14, 1989.

Workplace Education in the Health Care Industry

The health care industry is in the midst of a crisis. Faced with the contradictory constraints of pressures for cost containment and labor shortages across occupational categories, creative solutions are called for. This reports addresses the potential role for workplace education programs (in the form of English as a second language, adult basic education and/or high school equivalency preparation) in ameliorating the crisis. Health care costs in 1988 rose at a rate 50 percent higher than the Consumer Price Index (a weighted average of commodity prices widely used as a measure of inflation.) Nationally, the health care industry accounts for 11.9 percent of gross national product and is projected to reach 13.1 percent in 1995.[1] These figures render traditional market responses to labor shortages problematic. Economic theory tells us that when the demand for labor exceeds the supply, the price of labor, i.e. the wage, should rise. Rising wages would appear to only exacerbate the problem of rising health care costs.

Yet, maintaining current wage rates is problematic both from the perspective of continuing labor shortages and from the perspective of the worker. Entry level wages in many health related positions afford a standard of living below the poverty level, even for full-time year round workers. According to a survey conducted by the Massachusetts Federation of Nursing Homes, entry level wages in nursing homes in 1988 for nurses aides were $7.41 per hour, and $6.71 for laundry, house and dietary assistants.[2] If workers in these positions worked full-time year round, they would gross $13,000. The federal poverty level for a family of four is $12,092.[3] Given the high cost of living in Massachusetts relative to the rest of the nation, 125 percent of the poverty level can be taken as a more accurate measure of the poverty line in the Commonwealth.[4] This adjustment would put the poverty level at $15,115 for a family of four; an annual income out of reach for the highest non-professional average hourly wage worker in nursing homes.

While the data above are national, projections for Massachusetts are similar. Health care represents 9.4 percent of all employment in the State.[5] Of the twenty occupations expected to grow the most in the coming decade, 11 in are health related fields. The Massachusetts Long Term Care Foundation reported that 73 percent of a sample of nursing homes reported moderate to severe shortages of nurse's aides, kitchen workers and laundry workers.[6] Since the health care industry occupies such an prominent position in the State's employment mix and since labor shortages are feared by many economists to be the limiting factor in economic growth in Massachusetts, it is a legitimate area of public policy concern.

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[1] Hospitals, 1989.

[2] Massachusetts Federation of Nursing Homes, 1988 Wage and Benefit Survey, June 1989.

[3] U.S. Bureau of the Census, Current Population Reports P-60 series. Money Income an Poverty Status in the U.S. 1988.

[4] Boston Foundation report. cited in Boston Globe "Poverty Rate Drops for Hub's Families" December 11, 1989. page 1.

[5] calculated by the author from U.S. Department of Commerce, County Business Patterns, 1987. Massachusetts.

[6] Workplace Education Initiative, year two final report. Site Profile: Nursing Homes.

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The labor shortage will not be abated by increases in population, at least not in the short run. It is therefore necessary to seek other means of increasing the labor supply. As used by economists, the term labor force refers to those people currently employed and those actively seeking work. Estimates of available labor supply, therefore, do not include discouraged workers who have given up the hope of finding meaningful jobs paying a living wage or of securing any employment at all. Nor do they include those working part-time who might like to work full-time. These potential entrants into the full-time labor force might be enticed by the promise of, for example, education programs directly tied to the opportunity for occupational mobility.

The health care industry and the economy in general are faced with the challenge of providing incentives for people to enter the labor force and the training to ensure that the entrants possess the necessary skills to meet employment demands.

This health care industry report is organized as follows. First, a description of the labor force trends in the health care industry is presented. Second is an exposition of the issues common to work in all sectors of the industry, followed by a more in depth analysis of the crisis in long-term care. The underlying question addressed by the report is the extent to which literacy training, English as a second language and general education classes leading to the high school equivalency exam, can both meet the industry's labor shortages and improve the opportunities available to the working poor. The methodology relies on secondary sources supplemented by interviews with key personnel representing different sectors of the health care industry.

EMPLOYMENT IN THE HEALTH CARE INDUSTRY

According to the results of an analysis done by Field Research Service for the State Department of Employment and Training, eleven of the 20 fastest growing occupations in the Massachusetts are expected to be in health care. Home Health Aides are projected to experience an 80 percent increase between 1986 and 2000. The number of people employed as nursing aides, orderlies and attendants is expected to grow 35 percent in the same period; the number employed as LPNs is expected to grow by 38 percent. This is in contrast to a 19 percent average increase in employment expected across all occupations.[7]

Pressures on the industry are occurring on both the demand and the supply sides. Demographic changes in the population are leading to an increase in the demand for care givers as the population ages. 1986 estimates by the Bureau of the Census place the state's over 65 population at 16 percent of the State's population, a percentage that is sure to grow as birth rates decline and life expectancy lengthens. The portion of the population over 85, those in greatest need of long-term care services, is growing three times faster than the rest of the population.[8] According to a poll by R.L. Associates, reported in Chronic Care Workers, nearly half of all Americans have faced the long-term care issue in their own families and another 20 percent expect to face the issue within five years.[9] The November 14, 1989 issue of The New York Times ran a front page story on 'the daughter track'– the growing numbers of women who are faced with the responsibility for aging parents and parents-in-law just when they thought they were free of the responsibilities of parenthood. Increases in demand are also being fueled by increases in the intensity of care as a result of an aging population and shortened hospital stays. While the number of hospital beds is declining, those patients that remain require a greater intensity of care.

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[7] Edward Kaznocha, "Analysis of Employment Trends in the Boston Service Delivery Area," Department of Employment and Training,January 1989.

[8] Massachusetts Federation of Nursing Homes, 1989.

[9] Cited in Chronic Care Workers: Crisis Among Paid Caregivers of the Elderly. A joint project of the Older Women's League (OWL) and the American Federation of State, County and Municipal Employees,AFL-CIO. 1988.

The increase in the demand for care is simultaneous with a declining pool of workers and with changes in the composition of the workforce. For immigrants, English as a Second Language classes are a prerequisite for occupational mobility, even for workers highly literate and highly skilled in their native language. The well publicized (though disputed) figures for school drop out rates in Boston and other cities in the Commonwealth do not bode well for the ability of the educational system to provide a literate workforce. In a series entitled "Skills vs. Jobs: The Classroom Mismatch" the New York Times reported: "...Many of the students who are most at risk are children from minority groups, the same youngsters who the Labor Department says will fill 56 percent of the new jobs that will open up between 1986 and the year 2000."[10] Up to one-third of the 550 nursing home facilities in Massachusetts faced significant problems with language and/or literacy skills of staff.[11] The most recent available data (from the 1980 census) are that 14 percent of the State's over 18 population reside in non-English only households. Women workers face the additional problems of occupational segregation, wage discrimination, and competing demands of work and family life.

To the extent that workplace education programs can be designed to meet the needs of workers for whom traditional modes of education are either unavailable or insufficient, benefits will accrue to the employees and employers, and extend beyond them. For society as a whole, the underutilization of human resources means that the output of our economy is less than its potential. At a time when economists are concerned about limits to the current economic expansion, we cannot afford not to maximize potential output. Further, increasing the availability of educational programs leads to an increase in equality of opportunity. According to the same New York Times report cited above, "America is developing into a nation of educational haves and have-nots, who are fast becoming employment haves and have-nots; that this polarization follows racial lines, and that the effect on the economy and the country could be devastating."

Since the benefits of workplace education potentially extend to all sectors of the society, the field is fertile ground for creative solutions involving partnerships between and among industry and government, management and labor, and education and industry. These partnerships require a willingness to be flexible and to spend some money. While advocating increased expenditures may seem counter to the need to control health care costs, workplace education is properly categorized as an Investment Expenditure. Just as investment in technology is undertaken with the aim of improving productivity and cutting costs in the long run, investment in education and training can have the same results. U.S. managers have recently come under a good deal of criticism for focus on short-term profit margins, often to the detriment of long-term investment decisions that could increase productivity. Increased investment in human resources is likely to lead to long-term improvement in firms' bottom line, and in the fiscal solvency of the state as spending and, therefore, revenues increase.

While shortages are predicted for all occupational groupings, the problems in each sector differ. Although the divisions are inexact, it is helpful for analytic and policy purposes to divide the health care industry's labor force into those jobs requiring skills and formal education and those for which people can be trained relatively quickly. Employers of entry level, low skilled workers experience problems in employee turnover. Within those occupations requiring more formal education and/or training, the industry is competing with other professional occupations outside the health care field offering better returns to education and training. According to a 1989 article in Harvard Business Review, the dependably subservient army of women health workers-- nurses, technicians, aides, and dieticians-- increasingly found more rewarding and more lucrative opportunities elsewhere. By 1986, for the first time, the number of female college freshmen interested in becoming doctors exceeded those interested in nursing.[12]

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[10] Edward B. Fiske, "Impending U.S. Jobs 'Disaster': Work Force Unqualified to Work," New York Times, September 25, 1989. page 1.

[11] Massachusetts Long Term Care Foundation, Inc. "English as a Second Language: Helping Employees to Learn", June 1988.

[12] Herzlinger, Regina E. "The Failed Revolution in Health Care -The Role of Management," Harvard

By providing workplace education programs coupled with the opportunity for advancement through career ladders, both problems can be addressed: The promise of advancement would reduce turnover at the entry level and education programs would increase the supply of more highly trained workers.

Evidence supporting the need for training and education programs can be seen in the results of a survey of human resource managers conducted by the New England Board of Higher Education in cooperation with the New England Center for Continuing Education. Survey respondents indicated that adult illiteracy posed problems not so much in terms of current employees but rather for new recruits. Lack of a literate, skilled labor force may well present the major bottleneck for regional growth.[13] At the other end of the skill spectrum, a report issued by the Massachusetts Hospital Association argues that the most recent shortage of health personnel is secular (that is, persistent over time) rather than cyclical (i.e. due to expansion or contraction in the business cycle.) This is particularly important to note since it makes it unlikely that the possibility of economic downturn in Massachusetts will resolve the shortage of skilled labor.

While the personnel shortage has abated recently for some key professions, notably, registered nurses, this change may in fact be only a short reprieve from a cycle of more severe problems that lie just ahead. If future demand for workers continues along the current course, demographic trends indicate that the resources to supply the needs of the hospital industry will just not be available. Equally important, the current educational system capacity will not be adequate to prepare the numbers of workers needed.[14]

In the Harvard Business Review article cited above, Herzlinger locates the failures of the health care delivery system-- both financial failures and the failure to deliver the goods-- in a preoccupation with entrepreneurialism rather than on the details of management. We therefore witness the ironic results of innovation in the form of new health care agencies (particularly HMOs), and short-term increases in profit (the developer of Mediplex, a nursing home chain, netted more than $100 million in two years. According to the Massachusetts Rate Setting Commission, profitability in the hospital sector increased by 102 percent between 1981 and 1986 (excluding Boston City Hospital).[15] Yet costs remain intractable and service delivery remains problematic.

In the area of human resource management, Herzlinger notes: In many segments of the health care industry, those employees who are at the most critical point in fulfilling the purpose of the organization-- that is, in close and frequent contact with the 'customer'-- are often given the lowest pay and the lowest status. In nursing homes they are the aides, denigrated by their very job title. Mismanagement of this worker group has undermined the delivery of new services to the elderly. Few are the organizations, for-profit or nonprofit, that have ignored stereotypes of income or career paths and have carved out satisfactory roles for nursing home aides and workers of similar status.

In an interview conducted with Louise Clough of the Massachusetts Long Term Care Foundation, Inc., some of the obstacles to human resource restructuring became evident. The financial viability of nursing homes is precarious and declining. According to information released by the Foundation, in 1987, the most recent year for which complete data are available, the nursing home industry showed an aggregate operating loss of nearly $3 million. Since the beginning of 1987, 17 facilities have closed with a total loss

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Business Review, March - April 1989.

[13] New England Board of Higher Education, in cooperation with the New England Center for Continuing Education. "Education and training for the future of New England," June 1987.

[14] Massachusetts Hospital Association. Health Care Personnel: Avoiding a Crisis in the 1990's. September 1989.

[15] Massachusetts Rate Setting Commission, Key Trends in Massachusetts Acute Care Hospitals 1981 - 1986, May, 1987.

to the system of nearly 1000 beds. This is in a climate of a shortage of long-term care beds. The Foundation estimates that Massachusetts will need an additional 10,000 -12,000 long-term care beds by 1995.[16]

In this financial climate, Clough states that while employers are aware of the necessity to do something to maintain employee loyalty, they are reluctant to undertake the expense of workplace education programs for fear that trained workers will be bid away by competing firms (what economists call the "free rider" problem). Clough points out that the pilot workplace education programs undertaken in partnership with the state were expensive– perhaps as high as $30,000 for 20 or so students not counting the in kind contribution of release time.[17] In addition, in an atmosphere of staffing shortages, it is difficult for on site managers to release workers to attend class when they are needed on the floor.

The difficulties cited by Clough point to the need for cooperation and for the introduction of coordinating bodies, the current popularity of the calls for deregulation and diminished government involvement in the marketplace not withstanding. It is often the case that policies which enhance the long-term viability of an industry and/or the economy as a whole may not be the profit maximizing strategy for a privately held or publicly traded corporation. That is why, for example, there are federal and state laws setting standards for water and air pollution control. In the example of employer reluctance to invest in training, only to see the better trained workers bid away, this could be addressed by the creation of a fund for training that might levy larger fees on those employers which do not provide on site education programs, or a system of fines to reimburse the firm that undertakes the training could minimize the risk. Economies of scale can be realized as workplace education programs become more widespread. The costly program cited by Clough was a pilot program and, presumably, there exists a learning curve such that the cost per pupil will decline as we become more knowledgeable as to which elements of programs are key to their success. Perhaps several employers in an area could jointly contract with a learning provider to offer classes at a central location for employees at two or more sites.

The potential for creating an atmosphere of cooperation among government, management and labor is great, for it offers something tangible to each constituency. For organized labor a new area of bargaining is opened up. Management can look forward to reduced turnover, increased communication among staff and between staff and patients, and to a potential pool of highly trained, committed workers. It is likely that paraprofessionals in hospitals are ideal candidates for upgrades as they already demonstrate an attachment to the field and a willingness to withstand the disadvantages of night and weekend hours. State government can play a countercyclical role, i.e., increasing state spending when private spending is slowing, a role which can help to reverse the current economic slowdown in Massachusetts. The presence of a large number of teaching and research institutions makes health care a comparative advantage in Massachusetts. Since health care accounts for 9 percent of the employment in the state, ensuring the health of the industry through improving the skills of its workforce is necessary to the financial health of the Commonwealth. At a time when public skepticism of government programs is high, workplace education programs provide an ideal opportunity to demonstrate the ways in which small amounts of state spending can yield large and concrete economic and human rewards.

The call for cooperation among sectors is not meant to suggest that there are not areas of conflict. For example, recent legislation requires the licensing of all nursing aides, to take place by January of 1990. While there exists some fear among labor representatives that the tests might present an obstacle for some workers, it is generally felt that, if properly administered, licensure provides a means of upgrading the wages and benefits of a largely female, previously dead-end field. Credentialing allows people to move from one institution to another and provides workers with a measure of self respect.[18] The Massachusetts Hospital Association, on the other hand, views the licensure of new categories of personnel as potentially problematic "hav[ing] the effect of limiting hospital manager's ability to most efficiently utilize their staff."[19]

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[16] "Facts About Long Term Care in Massachusetts", Massachusetts Federation of Nursing Homes, June 1989.

[17] This cost estimate includes three 30 ten week modules that met twice weekly for two hours each time at two homes. 120 classroom hours at the rate of $20 per hour (teacher wage rate) = $2400. Added to this were payments to the Continuing Education Institute and to a full - time site coordinator, as well as the production of a learning manual.

Management's desire for flexibility and employee rights are often pitted against each other and, to some extent, the conflict is unavoidable. However, undertaking workplace training and education programs offers the opportunity for outcomes that are beneficial to all parties involved.

ASSISTANCE FOR A PARTICULARLY VULNERABLE POPULATION

According to a report issued jointly by the Older Women's League [OWL] and the American Federation of State, County and Municipal Employees, the shortage of adequately trained nursing aides and home health care workers can be directly linked to "the woefully inadequate pay and fringe benefits offered these chronic care workers and to the adverse working conditions including hours of work, under staffing, lack of training and absence of promotional opportunity."[20]

The report estimates that there are approximately 1.5 million nursing aides and home health aides (jointly referred to as chronic care workers) nationally, and that nearly all of them are women (90%), usually middle-aged, and include a disproportionate number of minorities (31% Black and 7% Hispanic as compared with 10% Black and 7% Hispanic for the labor force as a whole.)[21] A 1987 survey of home health agencies in Boston, Milwaukee, New York City, San Diego and Syracuse, found that more than 95% were female with an average age of 45; 57% were single and 60% primary providers. The home health aide workforce ranged from 15% Black in Milwaukee to 91% in Brooklyn. Average schooling was 11.7 years and average wages were $4.41 per hour.[22]

The OWL report provides important information on the crisis among chronic care workers from the perspective of the worker. Among the reasons the report cites for the 70 to 100% per year turnover rate among these workers are: low wages and few benefits, and among home health workers, the lack of a guaranteed number of hours, inadequate training, orientation and supervision, no pay for classroom training, and no upward mobility-- all of which can be addressed by workplace education programs tied to job ladders.

The crisis in chronic care workers has implications for all women workers-- not solely those employed in the health care industry. Demographic trends are likely to exacerbate the 'daughter track' problem as longevity increases. Prospective payment systems under Medicare have provided hospitals with an incentive to discharge patients as soon as possible. The development of Diagnostic Related Groups [DRGs], the Medicare reimbursement system introduced in 1984 which links payment hospitals receive for in-patient services to pre-determined rates in 467 diagnosis-related groups, offers financial incentives for hospitals to spend less on a patient than the DRG rate allows. If they do so, they can retain the earning. The converse is also true. If costs exceed the DRG rate, the institution must absorb the expense. Just as we have begun to recognize the necessity of quality affordable child care (and the connections between its availability and improved training and wages for child care workers) for all women workers so too is the necessity to resolve the crisis among chronic care providers.

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[18] This conclusion is drawn based on discussions with representatives of 1199 - the New England Health Care Workers Union, and AFSCME.

[19] Massachusetts Hospital Association, page 91.

[20] American Federation of State, County and Municipal Employees,AFL-CIO. "Chronic Care Workers: Crisis Among Paid Caregivers of the Elderly"

[21] Older Women's League, Chronic Care Workers: Crisis Among Paid Caregivers s of the Elderly, 1988.

[22] Ibid, page 16

Workplace education cannot change the demographics of an aging population or a shrinking labor pool, but it can serve to increase the dignity, desirability and ultimately the standard of living of those who provide care for those who cannot care for themselves. The Chronic Care Worker Bill of Rights published by OWL includes a call for in-service training and continuing education courses to increase my skills; opportunities to climb a career ladder (for example, paid release time and allowances for educational expenses). Workplace education programs are a step in meeting this goal. What then are the ingredients for a successful workplace education program?

EXAMPLES OF INNOVATIVE APPROACHES

In a project undertaken jointly by New York City's Health and Hospitals Corporation and District Council 37 or AFSCME and the City University of New York, Licensed Practical Nurses [LPNs], aides, and attendants can become Registered Nurses (RNs). LPNs must complete a 10 to 12 month accredited program in practical nursing; RNs must complete a two-year associate's degree program, a two or three-year hospital based program, or a four-year bachelor's degree program. Since nurses aides receive an average hourly wage of $7.41 as compared with $12.03 for LPNs and $14.05 for RNs, the benefits of educational and occupational ladders are substantial. Participants in the New York City program are given two years leave with full pay to attend school with tuition paid by the union and classes held on site at hospitals. Remediation and support services are provided. Los Angeles County SEIU established a Joint Training and Education Committee enabling nursing assistants to move to LVN (licensed vocational nurses) and LVNs to move to RNs. In an agreement that 1199 in Connecticut hopes will become a pattern for future contracts, a 1 percent (of gross payroll) upgrading fund was established.

While the report thus far has focused on the potential of workplace education programs for alleviating labor shortages, it is important to note that they provide more short-term benefits as well. South Cove Manor nursing home in Boston, a private non-profit home designed for elderly Chinese by the community, provides an example of both the necessary ingredients for a successful workplace education program and the rewards for all involved. Over 70 percent of the residents of the home are Chinese, with the rest being Irish, Italian, Polish and Haitian. The supervisory staff is English speaking, U.S. and immigrant Chinese women comprise most of the entry level staff. In addition, among Chinese speakers, Cantonese and Mandarin speakers require interpreters for each other. There is a strong need for bilingual RNs and entry level staff. In a health care setting, the need for communication between staff and residents and among staff is critical for service delivery.

Since measuring productivity in health care delivery is difficult, it requires defining the product. (Is it patient recovery per worker hour? Patient comfort per worker hour? Rate of relapse per worker hour? Number of patients treated per worker hour?) It is not possible to precisely measure the impact of workplace education programs on firm bottom lines. However, anecdotal evidence suggests that financial benefits do result. For example, management at South Cove Manor cited the reduction in the number of hours of substitute care from approximately 75 substitute hours per week to none. Substitute care is expensive; temporary agencies often charge 30 - 50% more than the hourly wage paid to the employee. In addition, costs were reduced in the areas of interpreters and in the waste of supplies due to errors in reading directions.

The Massachusetts Long Term Care Foundation, Inc., lists three areas in which financial benefits accrue to nursing homes as a result of workplace education initiatives. First, reduction in employee turnover as ESL classes help employees understand and carry out their jobs, make them eligible for promotions or for different jobs, and show them that management is willing to make an investment in them. Second is a reduction is supervisory time as less time is spent trying to explain, direct, and monitor workers in situations in which communication between worker and supervisor is hampered by language barriers. And thirdly, increases in the quality of care and in resident and employee safety can be expected.

In the results of the Massachusetts Workplace Education Initiative 1990 pilot outcome evaluation, 60.7 percent of the supervisors involved stated that participation in a workplace education program has changed workers' productivity. Improvements were cited in safety, error reduction, absenteeism, and retention.

Among the adult learners who participated in the Massachusetts Workplace Education Initiative 1989 worker evaluation, 100 percent of the respondents said that their learning in the class had changed their opinions of themselves, and more than half reported better communication with their co-workers, union and personnel representative and a better relationship with their supervisors.

CONCLUSION

The need for policy intervention to resolve the human resource problems facing the health care industry is clear. Market and demographic forces are not likely to either reduce the demand industry's demand for workers or to increase the available supply. Workplace education programs offer the possibility of improving the career opportunities for a group of workers often at the bottom of the opportunity structure and of increasing and improving the industry's labor pool. Where tried, these programs have been met with success. The potential rewards of expanding these programs are great by any measure: improvement in the bottom line for the health care industry, increased occupational mobility and a higher standard of living for employees, and enhancement of the economic well-being of the state.

Recommendations

Recommendations

The findings of the studies included in this report strongly suggest that the Commonwealth of Massachusetts should continue to invest substantially in the Massachusetts Workplace Education Initiative. In light of the current fiscal crisis facing the State, this recommendation requires comment. There is a long and respectable tradition in economics that prescribes increases in government spending precisely at the point at which the economy is headed for a downtown. This increase in government spending, termed "countercyclical fiscal policy," be it at the federal, state, or local level, is designed to prevent the economy from entering economic freefall. Spending in any form yields benefits greater than the initial dollar amount allocated, as those hired by the State turn around and buy products which in turn stimulate demand in other sectors. In the case of investment spending, as workplace education programs can be legitimately categorized, the potential benefits far outweigh initial costs. We urge the State to not be short-sighted in cutting spending in areas which will eventually weaken the economic viability of the Commonwealth and the economic well-being of its most vulnerable residents. This is the context which informs the following specific recommendations.

Program Enhancement:

- To promote awareness of diversity within and across WEP sponsored programs with special regard to:

  Gender: The potential conflict between women's roles and responsibilities as care givers and the demands of attendance in classes suggests the need to consciously and systematically support women in their educational choices.

  Age: The data suggest that older workers are more embarrassed to be in class and therefore need more support and encouragement than their younger counterparts.

  Educational levels and skills: The educational needs of students (including whether a student is literate in his/her own native language) vary substantially. Teachers should be supported to organize classes with respect to the scope of student needs.

- Conduct a Teacher Recognition/Celebration Event in order to provide teachers with the recognition they deserve.

- Conduct cultural training workshops on-site as needed.

- Encourage programs to spend available monies on materials and resources, specifically on dictionaries and texts. Develop funding for these materials from appropriate sources.

- Design a special class (or series of classes) about the effects of education on job mobility and personal life and about the role and function of unions. Develop a model for this next year.
- Increase provision of childcare and transportation services as needed.
- Improve classroom environment as needed.
- Provide counseling services to support students through the personal and social changes which may accompany an increase in educational skills.

Program Coordination

- Include adult learners on program Advisory Boards as full board members, with attention to maximizing, not marginalizing their participation.
- Foster a multi-year commitment and perspective among state partners, business and labor leaders, and adult learners in order to insure the success of the program.
- Conduct an on-site Education Day Event in which adult learners are recognized for their participation in their workplace education programs by their company. This would be a good opportunity to have volunteer adult learners give testimonials about their learning experiences in the program.

Evaluation Process:

- Report the pilot study results back to participants. The evaluation staff should provide a site-by-site report back to participants to highlight the outcomes of the pilot study and to share recommendations.
- Refine pilot protocols and expand the outcome study to all programs.
- Include workers who are not enrolled in the program and teachers in the evaluation process.
- Assess the magnitude of barriers to class attendance, such as lack of childcare, transportation, shift scheduling, etc.
- Continue to identify site-specific variables which explore and expand the meaning of success in workplace education.

Marketing:

- State Steering Committee and Wellesley College: Sponsor a statewide Workplace Education Conference. Design and distribute a brochure on, "How to Set Up Your Own Workplace Education Program."

- Executive Office of Labor: Advocate for union involvement in and for union support of workplace education programs.

- Program Staff: Organize mini-workshops at each site on the history, goals, and accomplishments of workplace education (involving unions, supervisors, managers, teachers, adult learners, family members, and other workers) in order to celebrate the program and promote its success,